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A follow-up study of agricultural education graduates at the University of Agriculture, Faisalabad, Pakistan

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Shafiq, Muhammad

A FOLLOW-UP STUDY OF AGRICULTURAL EDUCATION GRADUATES AT
THE UNIVERSITY OF AGRICULTURE, FAISALABAD, PAKISTAN

Iowa State University

Ph.D. 1986

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A follow-up study of agricultural education graduates
at the University of Agriculture, Faisalabad, Pakistan

by

Muhammad Shafiq

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
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DOCTOR OF PHILOSOPHY

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CHAPTER I. INTRODUCTION

The Pakistan economy is basically agricultural. Over seventy percent of the Pakistan population lives in villages. Nearly one-third of the Gross Domestic Product (GDP) is generated in the agricultural sector (The Far East and Australasia, 1986). Fifty-five percent of the labor force is engaged in agriculture (The World Almanac and Book of Facts, 1986).

In spite of the large size of the agricultural industry, the country has a shortage of food and fiber. Food is imported at the expense of foreign exchange. Khaliq (1972) indicated that one of the most important factors responsible for sub-optimal productivity is the lack of effective communications between scientists and farmers; hence, the salvation lies in instituting effective methods of education.

Khan (1982) said that, "like other developing nations, Pakistan is going through a crucial stage for want of requisite progress in the agricultural sector and the national requirements of food and other agricultural products would almost double by the year 2000."

Miah stated:

No one would deny that the stage of development of agricultural education is indicative of the state of agricultural development of any country. Without an effective and efficient agricultural education system no country can hope to make substantial progress in the process of agricultural development (Miah, 1979, p. 159).

Much emphasis was placed on the improvement of agricultural education in the education policy enforced in 1972. At present agriculture is being taught at the secondary school level as an optional

subject. However, the quality of agricultural education at the secondary school level has suffered due to the absence of qualified vocational agriculture teachers.

Statement of the Problem

In the 1960s, there was a great demand for qualified teachers of agriculture at the high school level. To fulfill this need, a Bachelor of Science (Honors) degree program in agricultural education was started at the then named West Pakistan Agriculture University, Lyallpur (now University of Agriculture, Faisalabad) in 1967-68 academic year. However, the program was dropped in 1978-79 after eleven years. From its beginning in 1967-68 to 1978-79, 208 students graduated with degrees in Agricultural Education.

Some of the important objectives which the Department of Agricultural Education was trying to achieve were:

1. To devise and develop appropriate programs and techniques to attract suitable talent to the profession of agricultural education.
2. To develop and conduct educational and training courses for the prospective agriculture teachers who have: a) a strong desire to teach and learn, b) interest in pupils, c) ability to get-along with others, d) good character and integrity, e) will to work, f) mastery of the subject matter, g) the background, ability and desire to apply psychological principles to the classroom situation Who should be able to a) prepare and use necessary teaching aids b) offer required leadership and help for the development of the community c) use and exploit community resources for teaching
3. To prepare instructional materials to embody new developments and to bring together data bearing on significant units of instruction.
4. To develop programs and provide facilities for retraining in-service teachers and supervisors in the field of agricultural education.
5. To assist in the development of educational programs for rural youth.
6. To conduct research and studies making direct contributions to the development of the programs of

agricultural education at different levels. 7. To train persons to play effective supervisory and administrative roles in agricultural education. 8. To exchange professional papers and publications with fellow workers in the field. 9. To develop and keep contacts with supervisory and administrative staff to discuss common problems, develop desirable working relations and plan activities for the improvement of agricultural education and related activities. 10. To contribute to and participate in leadership activities arranged by other agencies/departments for the development of agricultural education. 11. To assist the persons and agencies responsible for and interested in the development of agricultural education. 12. To assist graduates in Agricultural Education in placement and maintain effective communication with the agriculture teachers to assist them in the solution of their difficulties, and to get information for the improvement of teacher education programs in the university. 13. To provide professional advice to the government as well as universities on matters relating to agricultural education (West Pakistan Agricultural University 1971, p. 3).

The program of agricultural education was very vital for the development of Pakistan. However, the program was dropped. This study was designed to gather data about the program. It focuses on a follow-up of the program graduates.

Purpose and Objectives

The overall purpose of this research was to conduct a follow-up study of the graduates of the Department of Agricultural Education at the University of Agriculture, Faisalabad, Pakistan.

The specific objectives of the study were as follows:

1. To determine demographic characteristics of graduates of the Department of Agricultural Education, University of Agriculture, Faisalabad.
2. To determine factors influencing the career decisions of the

graduates.

3. To gather perceptions of graduates regarding the strengths and weaknesses of the program.
4. To determine how graduates perceive the attitudes of others towards the agricultural education program.
5. To investigate achievements attained by graduates.

Importance of the Study

Program evaluation is essential for program planning and program improvement. Wentling (1980) suggested five major reasons why educational programs should be evaluated. They are:

- To aid in planning
- To aid in decision making
- To upgrade program personnel
- To improve programs for students (program recipients).
- To ensure the accountability of expenditures

The Agricultural Education Department at the University of Agriculture, Faisalabad, has never conducted a follow-up study of its graduates. The results of this study will be valuable for planning future programs to prepare teachers of agriculture. Potential users of the findings will be the instructional staff, administrators of agriculture universities, personnel in both the provincial and federal ministries of education in Pakistan.

Limitations and Definition of Terms

The definitions and limitations of the study are as follow:

Limitations

The study was limited to graduates of the Bachelor of Science (Honors) degree program offered by the Department of Agricultural Education, University of Agriculture, Faisalabad, Pakistan.

Definition of Terms

Evaluation A systematic procedure whereby the quality of teaching-learning process and the achievement of stated objectives are ascertained. An on-going process that provides inputs and feedback to guide change and offer directions for the program and its modifications.

Graduates Former students who have earned their Bachelor of Science (Honors) degree from the Department of Agricultural Education, University of Agriculture, Faisalabad, Pakistan.

Bachelor of Science The duration of the program leading to the degree of Bachelor of Science (Honors) in Agricultural Education required three years of study beyond Intermediate Certificate.

Intermediate Certificate A two year pre-college program beyond high school that focuses on science subjects.

Grade 17 In Pakistan, every government employee is paid according to a national pay scales. The national pay scales range from 1 to 22 (see Appendix D). The national pay scale for grade 17 in Pakistani currency is as follows 900-50-1150/60-1750/100-2250. The basic pay of grade 17 begins at Rupees 900 (\$ 66.91) per month having an

annual increment of Rupees 50 (\$ 3.71) until it reaches Rupees 1150 (\$ 85.50). The annual increment changes from Rupees 50 (\$ 3.71) to Rupees 60 (\$4.46) when the basic pay reaches Rupees 1150 (\$ 85.50). The increment changes from Rupees 60 (\$ 4.46) to Rupees 100 (\$ 7.43) as the basic pay reaches Rupees 1750 (\$ 130.11). The maximum pay is Rupees 2250 (\$ 167.29) per month.

Urdu This is the official written and spoken language of Pakistan.

CHAPTER II. THEORETICAL FRAMEWORK

Many follow-up studies of graduates of educational programs have been conducted in the United States (Bell, 1950; Reinebach, 1951; Hoerner, 1965; Froehlich, 1966; Chizek, 1983), but no follow-up study has been conducted of graduates of educational programs in Pakistan. The literature cited in this section embraces the objectives of this study:

Objective 1: To determine demographic characteristics of graduates of the Department of Agricultural Education, University of Agriculture, Faisalabad

Bell (1950) completed a study at Iowa State University investigating the occupational choices of men qualified to teach vocational agriculture. The study included 288 graduates during the period from 1938 to 1949. The study investigated differential characteristics among men qualified to teach vocational agriculture who had entered and remained in teaching, who had not entered teaching, and who had not remained in teaching.

Bell found that ninety-two percent of the respondents were engaged in occupations classified as education or agriculture. He found that farm background experience could not be used to distinguish between those who had and those who had not stayed in teaching. He did find that those who stayed in teaching had more non-farm work experience. A significant difference was also found in favor of those who had stayed in teaching in relation to being married when they started to teach. No significant difference was found among the respondents in the number of

years of high school vocational agriculture completed, years of 4-H experience, and farming as father's occupation.

Phelps (1969) conducted a study at Iowa State University to investigate factors which influenced Iowa vocational agriculture instructors to remain in the profession. Phelps found the following factors which influenced the vocational agriculture instructors to continue teaching: (1) farming background appeared to be related to entry into teaching vocational agriculture, (2) vocational agriculture teaching in high school apparently exposes teachers to the many opportunities in teaching and in allied fields of agriculture, resulting in a sizeable number of teachers leaving the profession in latter years, (3) instructors who start teaching at the age of 28 years or above tend to remain in teaching longer than younger teachers, (4) instructors enjoy living in rural communities without the complexities and problems often associated with urban life, and (5) instructors desire to influence and shape the lives of farm youth.

Chizek (1983) conducted a follow-up study of Agricultural Education graduates at Iowa State University and made a comparison of the following three groups: (1) those who decided not to enter the teaching profession, (2) those who entered the teaching profession and left, and (3) those who entered and remained in the teaching profession. Chizek found no significant difference among the three groups in agricultural background before entering college. Further, he found a significant difference among the three groups in distance of present employment from parents' home or home of spouses' parents.

From the literature cited above, the following research questions were developed for this study:

- What is the present employment status of the graduates?
- Is farm background of graduates related to entry into the teaching profession?
- Does marital status relate to entry into the teaching profession?

Objective 2: To determine factors influencing the career decision of the graduates of University of Agriculture, Faisalabad

Several studies have investigated career patterns and decisions of agricultural education graduates (Bell, 1950; Reinebach, 1951; Hoerner, 1965; Froehlich, 1966; Chizek, 1983).

Froehlich (1966) concluded from a survey of 1,127 graduates in agricultural education at Iowa State University from January 1, 1940 to July 1, 1964 that: (1) about one-quarter of the non-teaching graduates had been enrolled in a high school vocational agriculture curriculum, (2) the non-teaching graduates who had taken vocational agriculture in high school had a somewhat longer tenure in vocational agriculture teaching, and (3) quality grade point average for both high school and college decreased as tenure in high school vocational agriculture increased. Graduates who had taught 16 to 18 years possessed a grade point average of 2.50 for both high school and college.

Reinebach (1951) used two basic criteria in an attempt to predict permanency in teaching vocational agriculture: (1) the number of years spent in agricultural jobs related to agricultural education, and (2)

the number of years spent teaching vocational agriculture or veterans on-farm training program. Information gathered pertaining to the graduates included their farm experience, college extracurricular activities, scholastic aptitude, and academic achievement. None of the variables yielded significant biserial correlations with either of the criterion. The attempt to predict permanency in teaching was unsuccessful.

Hoerner (1965) found that the factors which had the greatest influence on the graduates' decision to enter teaching as the first employment area after graduation were: (1) perceived quality of training, (2) opportunity to work closely with people, (3) opportunity for advancement, (4) freedom and independence of the job, (5) salary, and (6) security. Graduates who had entered vocational agriculture teaching and then left for other occupations rated long hours and evening responsibilities, salary and advancement opportunities, community factors, interpersonal problems, and failure to adjust to the teaching assignment as having the greatest influence on their decision to leave the profession.

Bell (1950) in his study at Iowa State University reported that qualified graduates who did not enter vocational agriculture teaching indicated lack of security of tenure, higher salaries elsewhere, and a desire to use training for purposes other than teaching as their reasons for not entering the teaching profession. The main reason given for changing jobs by teachers who had changed teaching positions was higher salaries. These teachers also listed the desire for broader personal

and professional experience as a major reason for moving from one school to another.

In conclusion, Bell (1950, p.66) made the following statement,

It is evident that teachers of vocational agriculture throughout the country feel that the salary situation could be improved. No doubt this fact accounts, in part, for the high mortality rate among teachers.

Chizek (1983) found that the most influential factors for graduates who did not enter the vocational agriculture teaching profession were:

(1) other opportunities available out of teaching, (2) inadequate advancement opportunities, and (3) inadequate salary. Further, he found that the most influential factors to enter and leave the teaching profession were: (1) other opportunity was made available out of teaching, (2) long range occupational goal was different than teaching vocational agriculture, and (3) inadequate advancement opportunities. Chizek also found that the following factors influenced graduates to enter and remain in the teaching profession: (1) felt that teaching effectiveness increased after beginning to teach, (2) enjoyed working with high school students, and (3) enjoyed working with the Future Farmers of America.

The following research questions were formulated from the above referenced literature:

- What factors influenced graduates the most to enter and leave the teaching profession?
- What factors influenced the graduates not to teach?
- What factors influenced the graduates to remain in the teaching profession?

Objective 3: To gather perception of graduates regarding the
strengths and weaknesses of the program

Wentling (1980) stated that follow-up studies are designed to evaluate the graduates and their preparation for employment. Follow-up studies also provide important information regarding the strengths and weaknesses of a program because program graduates are in the best position to judge such characteristics.

Heard (1981) concluded that the role of follow-up studies in program evaluation are as follows:

(1) Program evaluation is vitally important to the decision making process and to ensure that a quality education is maintained. (2) The follow-up study is useful tool in determining the accountability of educational programs. (3) Follow-up studies of program graduates can provide the graduates with an opportunity to express their perceptions of educational programs, in terms of strengths, weaknesses, and overall value of program. Performance on the job is a measure of the adequacies of graduates' educational program in equipping him or her for employment (Heard 1981, p. 21).

Chizek (1983) concluded from a comparison of three groups of teachers [(1) never taught, (2) taught and left teaching, and (3) entered and remained in teaching] that a significant difference exists among the three groups in perception of the student-teaching program and related experiences. Those who entered and remained in teaching rated the following experiences significantly lower than both of the other groups: (1) working with adults, and (2) working with young adults. However, in five other experiences the ratings of the group who remained in teaching were higher than the other two groups: following authority, organizing thoughts and ideas, becoming more competent in technical agriculture, better utilizing time and accepting and carrying out

responsibility. It was also found that a significant difference exists among the three groups in perceptions of the effectiveness of the total undergraduate program as preparation for first and present employment. No significant difference was found to exist among the three groups in perception of academic advising received at Iowa State University.

Several studies (Chizek, 1983; Heard, 1981; Jones, 1967; Miller, 1980) have investigated the perception of graduates towards curriculum and overall quality of degree programs.

Jones (1967), in a study of 44 vocational teachers and 519 adults in Florida, investigated the verbal and manual gains of students as they related to teachers' knowledge of subject matter. He concluded that verbal and manual gain in students was correlated to teachers' knowledge of the subject matter.

Miller (1980), in a follow-up study of Master of Agriculture and Master of Science graduates of the College of Agriculture at Texas A & M University, 1974-1978, found that most of the graduates (82.6 percent) felt the quality of their graduate program was good or excellent. Only 5.1 percent thought their graduate program was fair or poor. He also found that the majority of the respondents felt their graduate training was of much or great benefit to them in their career. When the graduates were asked if they felt changes were warranted in various course areas, most of the former master of agriculture students (55.0 percent) indicated finance courses should either be increased or added to the graduate curriculum. Other course areas receiving large votes for increase or addition were management (48.5 percent), technical

writing (37.5 percent), and speech (32.1 percent).

Heard (1981) concluded on the follow-up study of graduates of agricultural mechanization program at Iowa State University that the majority of graduates (83 percent) felt the overall quality of their education was good to excellent, while 17 percent felt it was of average quality, and none rated the overall quality as poor or fair.

Fifty-five percent of the graduates felt their education at Iowa State University was of great benefit, 34 percent indicated that it was of moderate benefit, and 11 percent felt it was of little or no benefit. In response to a question about what the number of credit hours should be, the majority of the graduates felt that the number of credit hours should be increased in the areas of power mechanics, management, and public relations.

Heard also found that the majority of the employers (91 percent) felt that graduates of the Agricultural Mechanization Curriculum were better prepared for entry level work than over half of their other employees who had completed similar training. The majority of graduates felt their education in the nine selected skill areas was good to average. Heard observed no significant differences between the perceptions of self employed graduates and graduates employed by others concerning the adequacy of their education.

Chizek (1983) found no significant difference among the three groups in perception of the adequacy of training received in the Agricultural Education Curriculum at Iowa State University. He concluded that graduates felt the amount of course work required in the

agricultural education program should be maintained for all skill areas except agricultural economics and adult work. Most of the graduates felt there should be an increase in the amount of course work required in these areas.

The review of literature cited above led to the following research questions:

- Do graduates feel that they were adequately prepared for their present job?
- What was the overall perception of graduates about the classroom instructions?
- What were the ratings of graduates on guidance and supervision?
- What area of the program do graduates feel should be increased, decreased or deleted?

Objective 4: To determine how graduates perceive the attitude of others towards the Agricultural Education Program

Chizek (1983) found in his study at Iowa State University the following factors having the least influence on graduates' decisions not to teach: (1) trend toward less emphasis on vocational agriculture, (2) dislike being in constant public view, (3) teaching would not meet desired social status, (4) dislike image of the teacher in the community, (5) spouse would not have been happy. He also found one of the least influencing factors causing the graduates to enter and leave teaching vocational agriculture was unfavorable community attitudes toward vocational agriculture. He further found that the social status teachers achieved was one of the least influential factor affecting

graduates' decision to enter and remain in teaching vocational agriculture.

The review cited above led the researcher to the following research questions:

- How do program graduates perceive the attitude of staff toward the program?
- How do program graduates perceive the attitude of peers toward the agricultural education program?

Objective 5: To investigate achievements attained by graduates

Post graduation educational and occupational characteristics of graduates can provide data useful in educational program evaluation. Several researchers, including Aanonsen (1979), Heard (1981), Hoerner (1965), and Leising (1973), have studied employment characteristics of graduates in determining the worth of educational programs.

Heard (1981) found from a study of graduates of the Agricultural Mechanization Curriculum at Iowa State University and their employers, that 93 percent of the graduates were employed full time, one was employed part-time and one was unemployed. Sixty-nine percent of the respondents had held only one position since graduation.

Leising (1973) reported in his study of factors related to occupations of male graduates of Franklin Public High School that 75.9 percent of the graduates were employed in non-agricultural occupations and 24.1 percent were employed in agricultural occupations. Out of those graduates employed in agricultural occupations, 4.4 percent were engaged in farming.

Hoerner (1965) studied, by questionnaire, 1,022 graduates of the Agricultural Education Curriculum at Iowa State University who completed their degree during the period January 1, 1940 to July 1, 1964. He found that 570 graduates (55.8 percent) had entered the teaching profession directly after college graduation. Other areas of employment were (1) G. I. on-farm training program (8.7 percent), (2) extension service (5.9 percent), (3) farming (5.5 percent), (4) high school teacher other than vocational agriculture (2.6 percent), (5) feed and seed business (2.6 percent), (6) government work (2.4 percent), and (7) other (4.8 percent). In 1964, 186 graduates (18.2 percent) were teaching vocational agriculture, farming (10.3 percent), extension service (6.8 percent), and government work (5.2 percent).

Aanonson (1979) reported in his study of factors related to occupations of male graduates of the Britt Community High School that 54.98 percent of the graduates had held jobs not related to farming, 13.74 percent had held jobs related to agriculture.

The review of literature relating to employment characteristics of graduates revealed that such information is valuable for both program participants as well as for program planners. The above review also led the researcher to formulate the following research questions:

- How many of the former graduates were still in the teaching profession?
- How many graduates were employed in non-agricultural occupations?
- How many graduates returned to school for further education?

- Why do graduates change their major field of study after graduating from the agricultural education program?

CHAPTER III. METHOD AND PROCEDURE

The primary research activity was a follow-up study (survey) of graduates of the Department of Agricultural Education, University of Agriculture, Faisalabad, Pakistan.

Design

This research was descriptive in nature. Van Dalen (1979) indicated that survey studies are one of the primary means for performing descriptive research. Borg (1981, p. 129) stated that descriptive research is "... aimed at describing the characteristics of subjects of science." Leedy (1981) simply stated that when employing the descriptive survey method, "the researcher gathers data by observation or by surveying the research universe, and then, usually by means of simple statistics, seeks to discover what the data seems to indicate."

Research data provided by students who complete a program can be used in program planning, course improvement, provision of guidance information and improvement of teachers and administration. This type of program evaluation can be effectively done through a follow-up study. Wentling (1980) indicated that follow-up studies can be designed to evaluate the product of career programs, the graduates. Engle (1975) and Pophom (1969) stated many purposes for evaluation of educational programs; some of them are:

- Classification of students
- Justification of expenditure

- Confirmation or rejection of hypothesis regarding teaching methods, instructional material, etc.
- Public relations
- Accountability
- Provisions of guidance information
- Course improvement
- Improvement of teachers, administrators and other personnel.

The staff and administration in the Department of Agricultural Education, University of Agriculture, Faisalabad consented to cooperate with the researcher in this study by providing addresses of the graduates, reviewing the instrument and collecting completed instruments for the researcher.

Population and Sample

The population for the study was the 208 students who earned the Bachelor of Science (Honors) degree with a major in Agricultural Education from the University of Agriculture, Faisalabad during the period 1967-68 to 1978-79 (Malik, 1981). The researcher used three sources to obtain the names and addresses of the graduates: 1) Office of the Department of Agricultural Education, 2) Admission Office, and 3) Office of the Controller of Examination at the University of Agriculture, Faisalabad. These offices were able to provide addresses for 148 of the 208 graduates. Ten of the graduates were used to pilot test the instrument and therefore, excluded from the sample. The remaining 138 constituted the sample of this study.

Instrumentation

A mailed questionnaire (see Appendix A) was designed by the researcher for use in data collection. Items included in the instrument were selected from a review of studies completed by Chizek (1983), Hoerner (1965) and Miller (1980). Additional questions were developed by the researcher and reviewed by the Department of Agricultural, Education University of Agriculture, Faisalabad, Pakistan. After developing a draft, copies of the questionnaire were mailed to ten respondents for pilot testing. These ten graduates were known to the researcher. Out of these ten graduates five were in Pakistan, two were in the United States of America, two were in Saudi Arabia, and one in Libya (these graduates were excluded from the study). These responses were evaluated and minor revisions were made on the questionnaire. The final questionnaire consisted of six sections. Section one contained 15 items, designed to gather background and employment information. Section two had 21 items, developed to identify the most influential factors as to why graduates entered and then left the teaching profession. Section three with 21 items, was designed to get information regarding the most influential factors as to why graduates did not enter the teaching profession. Section four consisted also of 21 items for collecting information about factors influencing the graduates decisions to remain in the teaching profession. Section five included 19 items designed to get information about the adequacy of training and amount of work that should be required of future students to improve the program. In section six, comprising 16 items, graduates

were asked to give their perceptions about the program and to give suggestions for program improvement. From section two to four a 1-to 5-point scale was used to assess perceived level of influence from graduates. The numerical values assigned to the levels of influence were: None = 1, Very Little = 2, Little = 3, Much = 4, and Very Much = 5. Colored paper was used for duplication of the instrument and an attempt was made to get the instrument to the respondents within the first two days of the week.

A cover letter (copy in Appendix B) was prepared to accompany the questionnaire. The cover letter featured:

- Purpose of the study
- Importance of response
- Suggested date for returning the questionnaire
- Signature of a respected person of the department

Post office personnel were consulted regarding the most appropriate mailing procedure. The researcher was advised by the post office to send questionnaires by certified mail. A follow-up letter was prepared and sent along with another copy of the instrument to non-respondents two weeks after the original mailing.

Data Gathering Techniques

The data were collected using a mailed questionnaire. Wentling (1980, p. 120) stated that "The questionnaire has several advantages over the interview. First, the questionnaire or inventory can minimize bias by insuring anonymity of responses. Also, the questionnaire or

inventory can be administered to a group rather than on a one-to-one basis, minimizing personal time."

A total of 110 usable responses were returned by the graduates, yielding a 80 percent response rate. Wentling (1980 p. 169) stated, that "A 60 percent return is considered good, but it is not sufficient to eliminate the effect of bias. An 80 percent return is considered necessary to sufficiently alleviate such bias in a small heterogeneous group such as former learners." Therefore, generalizations from the respondents to the total population of graduates can be made with optimism.

Analysis of Data

The data collected from the graduates were coded, key punched, and analyzed at the Iowa State University Computation Center. The data were analyzed using statistical package for social sciences (SPSSx, 1983).

The sub-programs used in this study were:

- FREQUENCIES
- CROSSTABS
- ONEWAY ANOVA

CHAPTER IV. FINDINGS

The findings presented in this chapter are based on the mail survey of graduates of the Department of Agricultural Education at the University of Agriculture, Faisalabad, Pakistan. Out of a total of 208 graduated from Agricultural Education at the University of Agriculture, Faisalabad, Pakistan from 1970 to 1980, 148 good addresses were secured. Ten graduates were used to pilot test the instrument, and therefore, excluded from the sample. A total of 110 respondents provided usable responses yielding a response rate of 80 percent. Second and third mailings were used to get responses from initial non-respondents. The data obtained from the 110 respondents of this study were analyzed and presented in the order of the objectives. The specific objectives of the study were as follows:

1. To determine demographic characteristics of graduates of the Department of Agricultural Education, University of Agriculture, Faisalabad.
2. To determine factors influencing the career decisions of the graduates.
3. To gather perceptions of graduates regarding the strengths and weaknesses of the program.
4. To determine how graduates perceive the attitudes of others towards the agricultural education program.
5. To investigate achievements attained by graduates.

The data examined for this study were compiled from questionnaires returned by 110 respondents. The number of respondents reported in the tables and figures may not always total 110, since not all the respondents answered all the questions.

It was not possible for the researcher to follow-up the remaining 28 non-respondents after third mailing because the researcher was at that time in the United States and questionnaires were collected by the Department of Agricultural Education Faisalabad, Pakistan.

Reliability Coefficient

Cronbach's Alpha was run to test the reliability of the main section of the survey instrument used with the three groups: 1) those who taught but not presently teaching, 2) those who never taught, and 3) those who are presently teaching. The reliability coefficients ranged from 0.86 to 0.94 as reported in Table 1. As supported by Nunnally (1978), these coefficients were considered acceptable.

TABLE 1. Reliability coefficients for attitude towards teaching scales

Scales (Respondent Groups)	Number of Cases	Number of Scale Items	Alpha Level
1. Have taught but not presently teaching	12	20	0.86
2. Never taught	86	20	0.94
3. Presently teaching	10	20	0.94

Number of Graduates Per Year

Figure 1 presents the number of graduates by year. It was observed that the number of graduates in the Department of Agricultural Education remained relatively above 20 except for the years 1970, 1971 and 1980 which were below 15. The years 1970, 1971 were the beginning years of the program which might account for lower enrollment. The decision to drop the program was made in 1979, which also accounts for the decline in the number of graduates in 1980.

Objective 1: To determine demographic characteristics of the graduates of University of Agriculture, Faisalabad

Demographic Characteristics of Respondents

The items considered in this section were: age, marital status, occupation, family background, major source of financial support for education, source of information to apply for admission, reasons for enrollment, other choices for admission, first contact with the employer, job intentions prior to enrollment and time spent seeking employment.

Age of Respondents

Respondents were grouped by age at the time of data collection into five categories: 23 and less, 24-27, 28-31, 32-35 and 36 and above. It was found (Figure 2) that the largest number of respondents, 37.3 percent were in the 24-27 age category. The next largest number of respondents, 29.1 percent, were in the 28-31 age category.

NUMBER OF GRADUATES PER YEAR

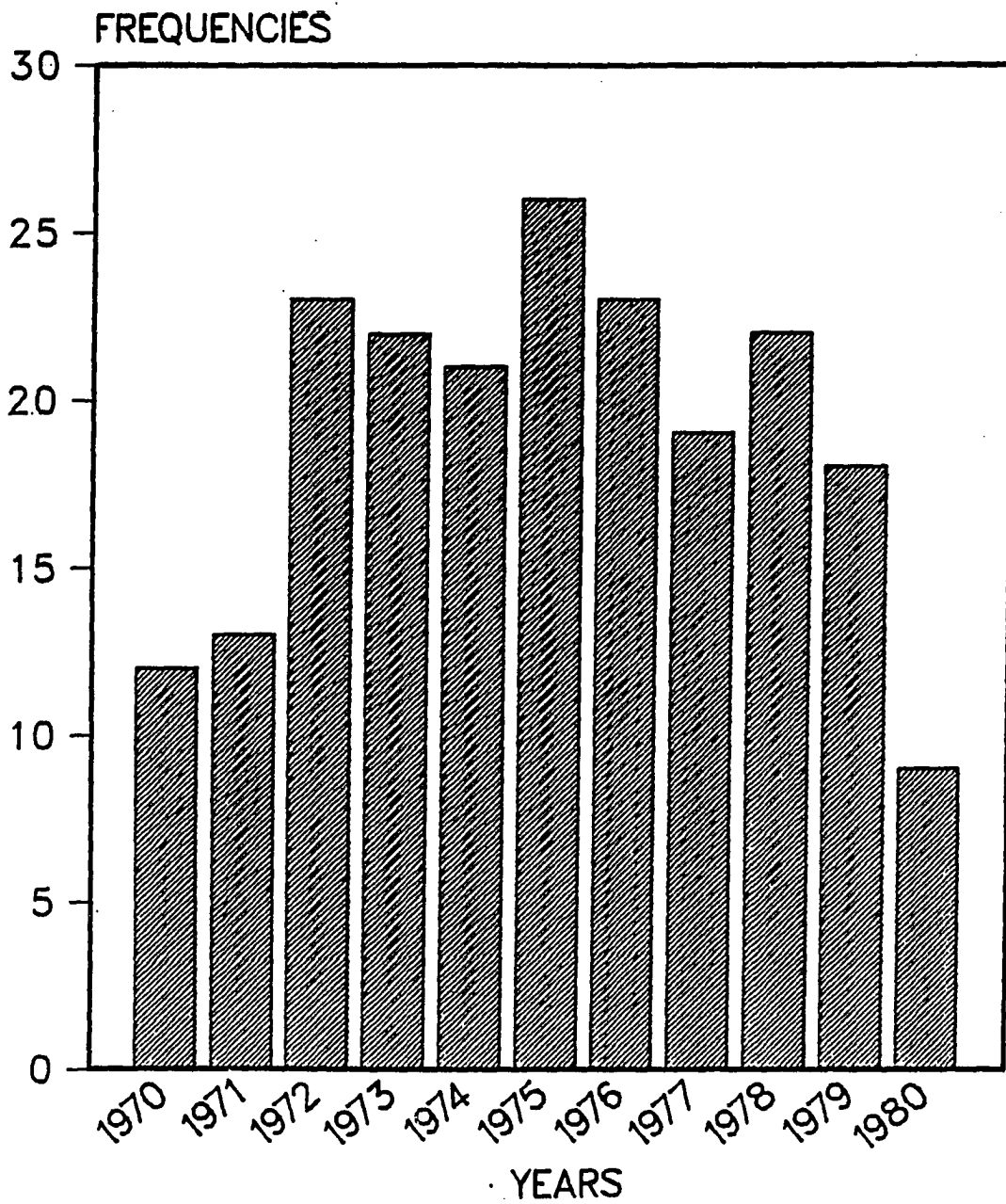


FIGURE 1. Number of graduates in agriculture education 1970-1980
(N=208)

AGE OF RESPONDENTS

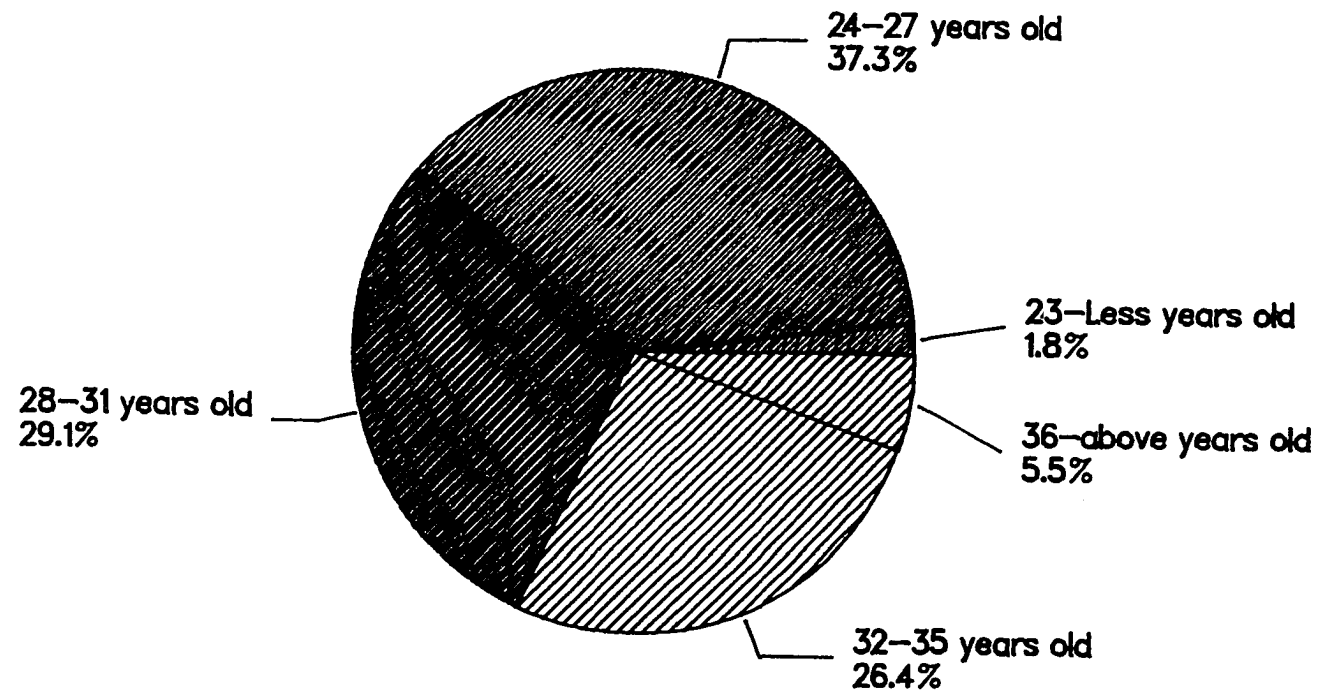


FIGURE 2. Categories of respondents by age (N=110)

Marital Status

Data in Table 2 reveal that 47, or 43.1 percent, of the respondents were not married at the time of data collection. The remaining 62, or 56.9 percent of them were married.

TABLE 2. Marital status of the respondents

Marital Status	Frequency	Percent
1. Single	47	43.1
2. Married	62	56.9
Total	109	100

Occupation of Respondents

Table 3 presents the employment data for the graduates. About one-fourth (28.8 percent) of graduates were working as agriculture officers or research officers in government or semi-government organizations. An additional 26.0 percent of the graduates were working in banks as second officers or credit officers. Only about ten percent were in the teaching profession. Other occupational areas of graduates were project managers and extension workers, 11.5 percent; Army or government service, 9.6 percent; sales managers, 3.8 percent; food technologist, 1.9 percent; and other professions, 8.7 percent.

When the program of Agricultural Education was started in Pakistan, there were no specific posts created in the high schools to absorb these graduates. At the same time the Integrated Rural Development Program was started by the federal government to improve rural communities in Pakistan. In addition, banks were advised by the federal government to extend supervised credit to the farmers. Thus, there was a great demand for agricultural graduates to fill these newly created positions. Agricultural education graduates were available to fill these positions. Only 10 of the graduates joined the teaching profession.

TABLE 3. Employment of graduates

Area of employment	Frequency	Percent
Agriculture/Research officer	30	28.8
Bank/Credit officer	27	26.0
Project manager/Extension worker	12	11.5
Teaching	10	9.6
Army or Government service	10	9.6
Sales manager	4	3.8
Food technologist	2	1.9
Others	9	8.7
Total	104	100

Family Background

Ninety-one, or 82.7 percent, of the respondents were from farm backgrounds compared to nineteen, or 17.3 percent, who had non-farm backgrounds as shown in Table 4.

TABLE 4. Background of respondents

Background	Frequency	Percent
1. Farm background	91	82.7
2. Non-farm background	19	17.3
Total	110	100

Major Source of Financial Support for Education

The respondents were asked to indicate their major source of financial support for their university education. Data in Figure 3 revealed that most of the respondents (92.6 percent) were financially supported by their parents or guardians. Other sources of financial support were scholarship award, 4.6 percent; part time job, 1.9 percent; and 0.9 percent utilized the government loan program. In Pakistan, it is the responsibility of parents or guardians to finance their childrens' education. This accounts for the high percentage of respondents being financed by their parents or guardians.

Main Source of Admission Information

The respondents were asked to indicate the main source of information for admission in the program. As shown in Figure 4, the largest group of respondents (46.4 percent) indicated that they had received information from their friends. Another 25.5 percent indicated that they had received information through newspapers, and 12.7 percent

FINANCIAL SUPPORT

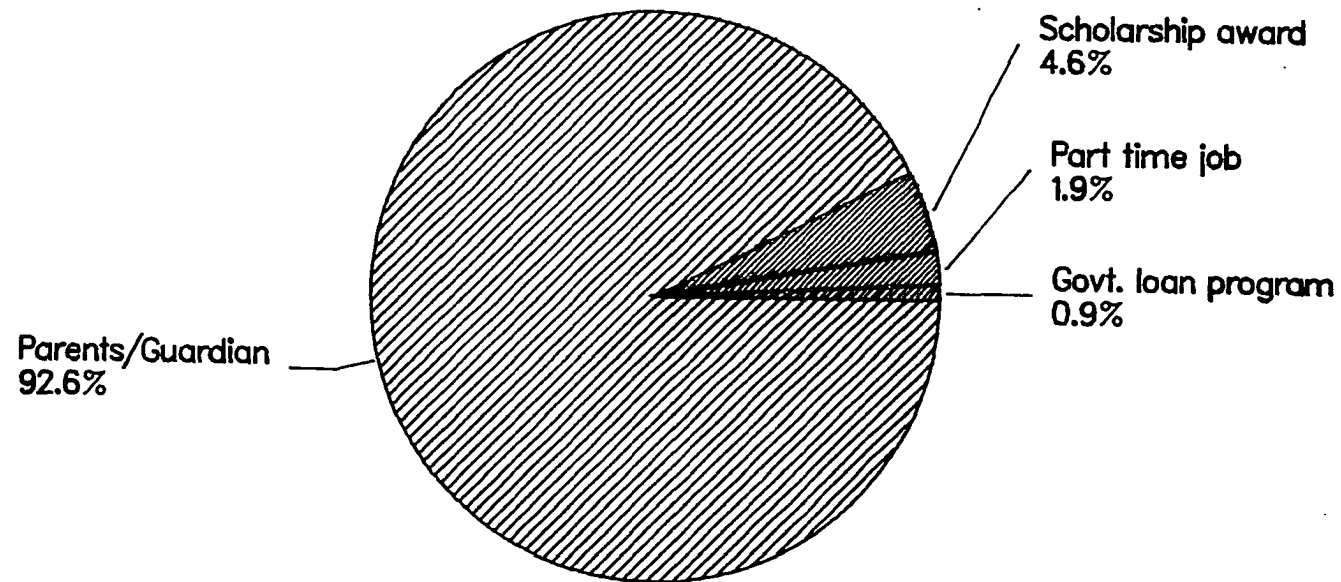


FIGURE 3. Major financial support for education (N=108)

were informed by their parents or guardians. Eight percent indicated that they received information by visiting the university. Another 4.5 percent were informed by their teachers at college and a small group (2.7 percent) indicated that they received admission information from other sources. From these responses, it can be concluded that the main sources of information about the program were friends and newspapers.

Reasons for Enrollment in the Program

The respondents were asked to indicate their reasons for enrolling in the Agriculture University. Twenty-six or 24.5 percent, said that they enrolled in the program because it would expand their employment opportunities. Another 20, or 18.9 percent, indicated that it was the only university offering an agricultural education degree program. Eighteen, or 17.0 percent, said it was the only agriculture university in the province (equal to a state in USA). Thirteen respondents, or 12.3 percent, indicated that having a friend who graduated from the university caused them to join the program. Eight or 7.5 percent, indicated that nearness to the university was the main reason they joined the program. Two categories had six respondents, or 5.7 percent, each. These categories were, "relatives were graduates," and "a friend was enrolled." Another two categories, "a scholarship award," and "father/guardian graduate," each had four respondents (3.8 percent). Only one respondent indicated that lower tuition fee was a reason for enrolling in the program. Table 5 presents the information regarding the reasons the respondents enrolled in the program.

SOURCE OF INFORMATION

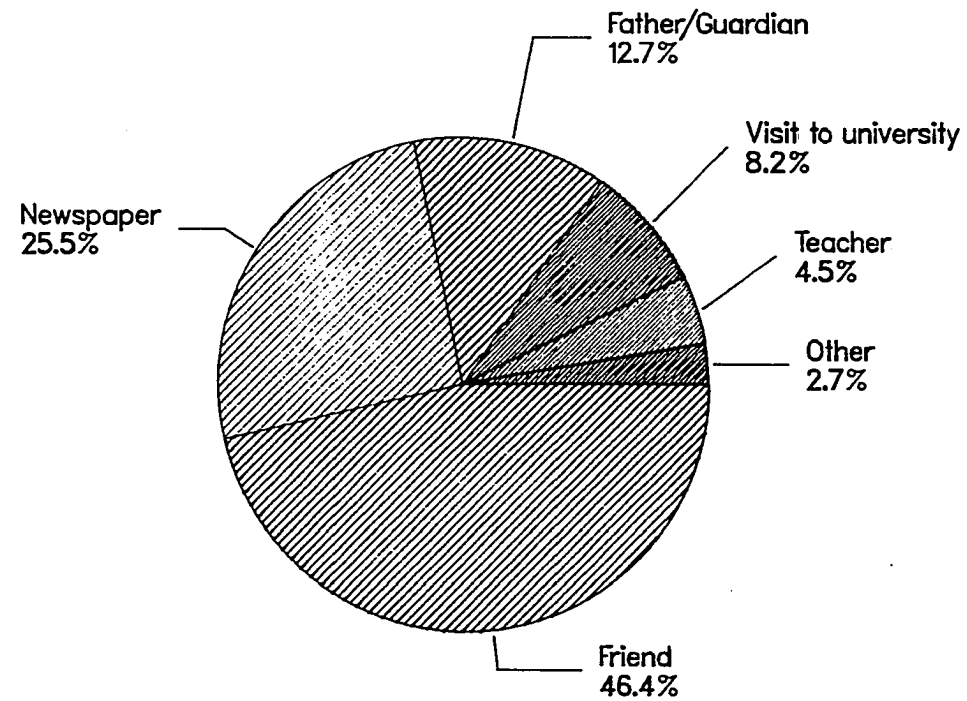


FIGURE 4. Main source of admission information (N=110)

TABLE 5. Reasons for enrolling in the program

Reasons	Frequency	Percent
Better employment opportunity	26	24.5
Offered agriculture education	20	18.9
Only agriculture university in Punjab	18	17.0
A friend was a graduate	13	12.3
Nearness to the university	8	7.5
Relatives were graduates	6	5.7
A friend was enrolled	6	5.7
A scholarship award	4	3.8
Father/guardian was a graduate	4	3.8
Lower tuition fee	1	0.9
Total	106	100

Other Degree Program Choices at the Time of Admission

The respondents were asked to indicate their other degree program choices at the time of enrollment in the Agricultural Education Program. The findings reported in Table 6 indicate that the largest number (75 percent) of the respondents had other alternatives when they enrolled in the agricultural education program. Only one-fourth of the respondents reported no other choice. The largest number of respondents (37.8 percent) indicated they had a choice of joining the pre-medical degree program. Fifteen respondents indicated they had a choice of enrolling in agricultural engineering or B.S. engineering. Eleven, or 12.1 percent, indicated they had a choice of admission to the medical degree program. Two categories had 8, or 8.8 percent, responses each. These choices were, "Doctor of Veterinary Medicine," and "Agriculture."

Another 5, or 5.6 percent, indicated they had a choice of enrolling in the Pharmacy Program. Only 2, indicated a choice of textile technology degree program. Seven or 7.8 percent, indicated other choices.

TABLE 6. Respondents' choices of other alternatives at time of admission

Choices	Frequency	Percent
Pre-medical degree	34	37.8
No other choice	24	26.7
Agriculture engineering	15	16.5
Medical doctor degree	11	12.1
Veterinary doctor degree	8	8.8
Agriculture	8	8.8
Pharmacy	5	5.6
Textile technology	2	2.2
Others	7	7.8

Job Intentions

Each respondent was asked to indicate his job intention when he joined the program. As shown in Figure 5, 40.6 percent of the respondents indicated they did not intend to get a teaching job when they enrolled in the agricultural education program. About one-third were not sure what they would do after graduation. Less than one third (29.2 percent) of the respondents were initially interested in becoming teachers. This may account for the low percentage of respondents who actually entered teaching as a career.

JOB INTENTION

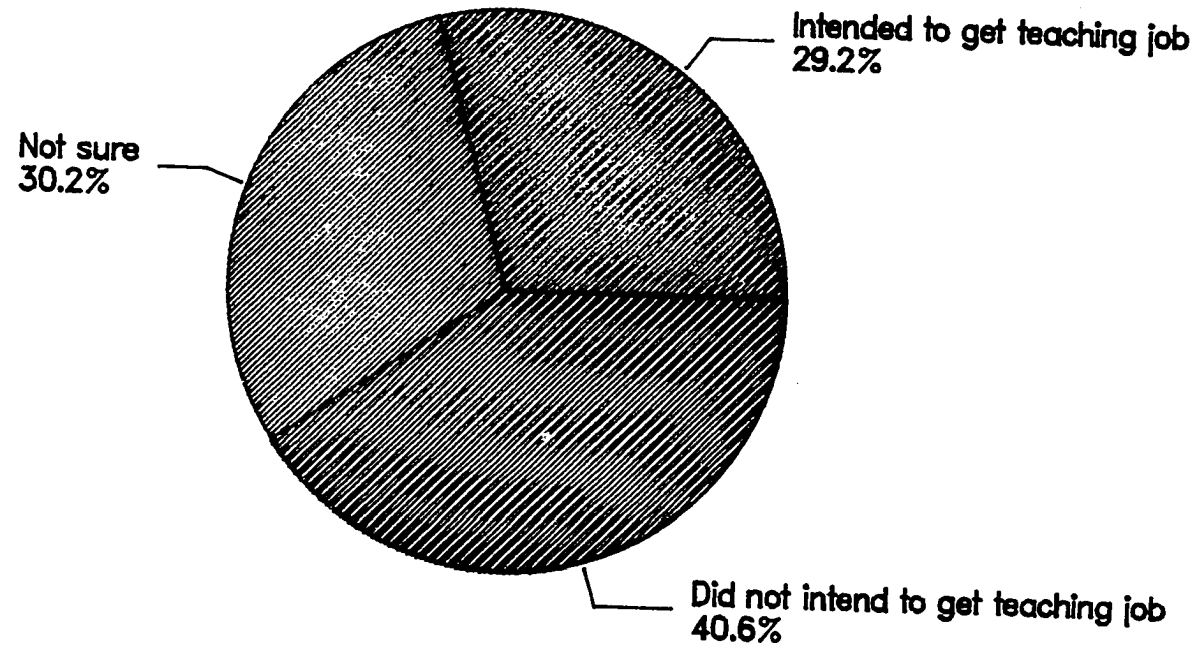


FIGURE 5. Intention about jobs at the time of enrollment (N=106)

Area of Employment Opportunity

The respondents were asked to indicate the employment opportunity available to them at the time of graduation. As shown in Table 7, 47.2 percent of the respondents reported that employment was available in the Department of Agriculture. Over two-thirds indicated having employment opportunities with agriculture or commercial banks. One third reported availability of opportunities in teaching. The Integrated Rural Development Program and the Water and Power Development Authority also provided employment opportunities for the respondents. Only 5.6 percent said opportunities were available in chemical companies.

TABLE 7. Areas of employment opportunity available

Job area	Frequency	Percent
Department of agriculture	51	47.2
Agriculture banks	42	38.9
Commercial banks	40	37.0
Teaching	35	32.4
Integrated Rural Development Program	33	30.6
Others	16	14.7
Water and Power Development Authority	9	8.3
Chemical companies	6	5.6

Sources of Information About Employment Opportunities

The respondents were asked to indicate how they learned about employment opportunities. A majority of the respondents (61.7 percent) learned about employment opportunities through newspapers as reported in

Table 8. Another 17.8 percent indicated that friends were a main source of information about employment opportunities. University of Agriculture placement ranked third, as only 13.6 percent indicated that they learned about employment opportunity through this office. Employers making contacts and the Federal Employment Exchange Agency were other minor ways respondents used as sources of information on employment opportunities. Therefore, it can be concluded that newspapers and friends were main sources used by the agricultural education graduates to get information about employment opportunities.

TABLE 8. Respondents' source of information about employment opportunities

Source	Frequency	Percent
Newspapers	66	61.7
Friends	19	17.8
University of Agriculture placement service	15	13.6
Employer made contact	3	2.8
Other	3	2.8
Employment exchange	1	0.9
Total	107	100

Time Spent in Seeking Job

The respondents were asked to indicate the amount of time they spent seeking a job after graduation. A majority of the respondents reported that it took 10 or more weeks for them to find employment after graduation (Figure 6). Eleven percent of the respondents indicated

taking seven to nine weeks to get a job. Another group of respondents, 19.0 percent, indicated waiting 4 to 6 weeks before becoming employed. Five percent of the respondents said they had a job within three weeks. Only 8.0 percent indicated that they already had a job.

Difficulties Faced in Finding Jobs

Data in Table 9 revealed that 27.6 percent of the respondents did not have any difficulty finding jobs. Twenty-five percent reported much competition in getting jobs. About one in four of the respondents indicated that they needed recommendations to get a job. One-fifth of the respondents indicated that there were no posts created in their area of specialization and 16.3 percent indicated that their degree was not recognized by the Public Service Commission. Fifteen percent indicated that there were no related jobs available at the time of graduation. Thus, it can be concluded that many of the respondents encountered difficulties in finding employment after graduation.

TABLE 9. Difficulties faced by respondents in finding jobs

Difficulties	Frequency	Percent
No difficulty	27	27.6
Much competition	25	25.5
Recommendations needed	24	24.4
No posts were created	20	20.4
Unrecognized degree	16	16.3
No related jobs	15	15.3
Not applicable: Joined master degree program	7	7.1

TIME SPENT IN SEEKING EMPLOYMENT

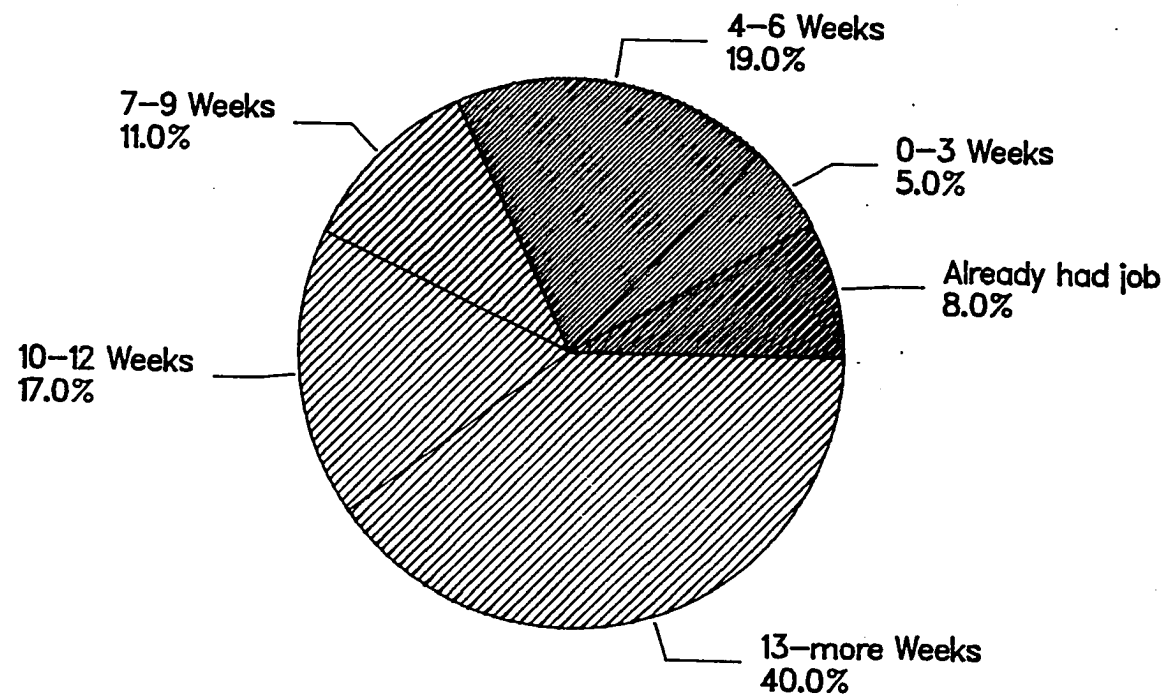


FIGURE 6. Time spent while seeking employment (N=100)

Association Between Respondents Demographic Characteristics and Teaching Experience

In order to test the association between variables chi-square (χ^2) values were computed. If calculated value of chi-square (χ^2) was equal to or higher than the table value at a probability level of 0.05 percent, the association was interpreted significant. For the purpose of chi-square (χ^2) computation two groups were used: those who taught and left teaching, and those who were teaching were combined together as (Group 1), and Group 2 consisted of those who never taught at all. The variables run against each of these groups were: age, marital status, family background, and job intention at the time of enrollment.

The chi-square (χ^2) value was non-significant as shown in Table 10 for age and teaching experience. Therefore, age was independent of teaching experience.

The non-significant chi-square (χ^2) value in Table 11 indicates that teaching experience was independent of marital status.

The chi-square (χ^2) computation to determine association between family backgrounds and teaching group experiences revealed a non-significant value (Table 12). It was therefore, concluded that family background was independent of teaching experience.

Table 13 reports a significant chi-square (χ^2) value at the 0.05 alpha level, revealing an association between job intention and teaching experience. An examination of individual cells reveals that majority of the respondents who were either not sure or did not intend to go into teaching profession never taught at all. On the other hand over half of

TABLE 10. Association between respondents' age and teaching experience

Teaching Experience	Age			Total
	27 or Less N	28 to 31 N	32 and above N	
Taught, left teaching and presently teaching	9	8	5	22
Never taught	34	23	9	86
Total	43	31	34	108
Number of missing observations = 2 χ^2 Cal = 1.25 p > 0.05 df = 2				

the respondents who were either still teaching or taught and left teaching did actually intend to go into teaching at the time of enrollment.

TABLE 11. Association between respondents' marital status and teaching experience

Teaching Experience	Marital Status		Total
	Single N	Married N	
Taught, left teaching and presently teaching	10	12	22
Never taught	37	48	85
Total	47	60	107

Number of missing observations = 3

χ^2 Cal (after Yates correction) = 0.0 P > 0.05 df = 1

TABLE 12. Association between respondents' family background and teaching experience

Teaching Experience	Family Background		Total
	NonFarm N	Farm N	
Taught, left teaching and presently teaching	6	16	22
Never taught	13	73	86
Total	19	89	108

Number of missing observations = 2

χ^2 Cal (after Yates correction) = 1.046 P > 0.05 df = 1

TABLE 13. Association between respondents' job intention and teaching experience

Teaching Experience	Job Intention			Total
	Yes	Was not Sure	No	
	N	N	N	
Taught, left teaching and presently teaching	12	3	7	22
Never taught	19	28	35	82
Total	31	31	42	104

Number of missing observations = 6
 χ^2 Cal = 8.68 p < 0.05 df = 2

Objective 2: To determine factors influencing the career decision
of the graduates

Respondents were asked if they had ever been employed as an agriculture teacher. Only 20 percent answered yes. Of these, only one-half were presently teaching.

Table 14 through 16 report factors which influenced career decisions of graduates. Respondents were instructed to assign a numerical value, one, two, three, four or five to each factor with one representing none and five meaning very much.

The rank, mean, median, and standard deviation for factors that influenced graduates to enter and leave the teaching profession are presented in Table 14. The most influential factor was inadequate promotional opportunities with a mean of 4.18. Chizek (1983) found, in his follow-up study of Iowa State University this factor to be the third most influential factor in graduates' decision to enter and leave the teaching profession. Other influential factors and mean ratings found in this study were: little or no opportunity to specialize, (mean=3.42); inadequate facilities, instructional aids and materials available, (mean=3.27); and dislike disciplining students, (mean=3.10). Those factors having little influence on graduates of the program to enter and leave the teaching profession were: too many meetings to attend as a vocational agriculture instructor, students lacked interest, and inadequate preparation for teaching. Chizek (1983) also found that inadequate preparation for teaching had little influence on decisions to enter and leave teaching.

TABLE 14. Rank, mean, median and standard deviation for factors which influenced graduates to enter and leave the teaching profession (N=12)

Factors	Rank	Mean	S.D.	Median
Inadequate promotional opportunities	1	4.182	0.982	4.0
Little or no opportunity to specialize	2	3.417	1.311	3.5
Inadequate facilities, instructional aids and materials available	3	3.273	1.555	4.0
Disliked disciplining students	4	3.100	1.524	2.5
Inadequate technical preparation for the profession	6	3.091	1.578	4.0
Made inadequate salary	6	3.091	1.514	3.0
Too many required extra-curricular activities	6	3.091	1.375	3.0
Long range occupational goal was different	8	3.083	1.240	3.0
Socially, teaching profession is not appreciated	9	3.000	1.414	3.5
Disliked working with high school students	10	2.900	1.370	2.5
Disliked working in rural areas	11	2.818	1.471	3.0
Received inadequate assistance from university	12	2.727	1.421	2.0
Long working hours	13.5	2.667	1.614	2.0
Spouse was not happy with my being a teacher	13.5	2.667	1.000	3.0
Inadequate administrative support in decisions	15.5	2.636	1.362	2.0
Inadequate preparation for organization and conducting a vocational agriculture program	15.5	2.636	1.206	3.0
Inadequate preparation on how to teach	17	2.417	1.240	2.5
Students lack of interest	18	2.167	1.115	2.5
Disliked students attitude	19	2.000	1.044	2.0
Too many meetings to attend as agriculture instructor	20	1.909	1.044	2.0

The data presented in Table 15 reflect the factors which influenced the respondents not to enter the teaching profession. The most influential factor in graduates' decisions not to teach was inadequate salary, with a mean rating of 3.79. Studies conducted by Chizek (1983), and University of Minnesota (1981) ranked this factor as the third most influential factor in graduates' decisions not to enter the teaching profession. Two other influential factors and mean ratings were: teaching would not meet wanted social status, 3.74; and inadequate advancement opportunities, 3.54. It was found in this study that inadequate salary and poor social status in the community were the main influential factors in the respondents' decision not to teach. Chizek (1983) found that social factors were least influential in decisions not to teach in a study of Iowa State University graduates. The least influential factors found in this study were: felt inadequate to teach, had bad student teaching experience, and inadequate preparation in how to teach.

Table 16 reports the most influential factors affecting respondents' decision to enter and remain in the teaching profession. The mean ratings were calculated using the 1-5 scale values assigned to each of the five levels of influence. The most influential factors and their mean ratings were: able to get students to learn materials, 4.38; adequate preparation for teaching, 4.00; able to direct students, 3.89; and enjoy working with high school students, 3.86. This latter factor was revealed second most influential in the study conducted by Chizek (1983).

TABLE 15. Rank, mean, median and standard deviation for factors which influenced graduates to decide not to enter teaching profession (N=86)

Factors	Rank	Mean	S.D.	Median
Inadequate salary	1	3.795	1.399	4.0
Teaching would not meet wanted social status	2	3.741	1.340	4.0
Inadequate advancement opportunities	3	3.537	1.432	3.5
Other opportunity was made available out of teaching	4	3.429	1.418	4.0
Disliked image of the teacher in the community	5	3.275	1.591	3.0
Dislike rigid school schedule	6	2.808	1.521	3.0
Spouse would not have been happy with my being a teacher	7	2.806	1.530	3.0
Insufficient preparation for organization and conducting a vocational agriculture program	8	2.795	1.313	3.0
Trend toward less emphasis on vocational agriculture	9	2.759	1.303	3.0
Dislike working in rural areas	10	2.724	1.588	3.0
Dislike working with high school students	11	2.696	1.497	2.0
Little or no opportunity to specialize	12	2.623	1.298	3.0
Never planned on teaching	13	2.612	1.428	3.0
Inadequate technical preparation for the profession	14	2.537	1.423	2.0
Students lacked interest	15	2.385	1.198	2.0
Long hours	16	2.299	1.358	2.0
Dislike students attitude	17	2.139	1.174	2.0
Felt inadequate to teach certain subjects	18	2.136	1.191	2.0
Bad student teaching experience	19	1.987	1.127	2.0
Inadequate preparation on how to teach	20	1.810	1.051	1.0

Those factors having the least influence (with a mean of 2.00 or lower) on the respondents' decisions to enter and remain in teaching profession were: adequate administrative backing on decisions, sufficient facilities and teaching materials, and own a house in that part of the province.

Objective 3: To gather perceptions of graduates regarding the strengths and weaknesses of the program

This section reports the perceptions of respondents regarding: program effectiveness, effectiveness of classroom instruction, guidance and supervision, adequacy of training and amount of work required. Comparisons were made to see if any differences existed among the three groups of teaching experience.

Program Effectiveness

Respondents were asked to rate the effectiveness of the program with regard to overall preparation for a career. Figure 7 reflects respondents' perceptions of the effectiveness of the program. Only 13.3 percent of the respondents indicated that the program was very good, with 26.7 percent indicating that it was good. A large proportion of the respondents, 47.6 percent, thought the program was average, and 12.4 percent rated it as poor or very poor. The means for the groups were calculated using a scale with effectiveness values assigned as follows: Very poor = 1, Poor = 2, Average = 3, Good = 4, Very Good = 5. One-way analysis of variance was used to test for differences among the means for the three groups of respondents: (1) those who entered and left

TABLE 16. Rank, mean, median and standard deviation for factors which influenced graduates to enter and remain in teaching profession (N=10)

Factors	Rank	Mean	S.D.	Median
Able to get students to learn materials	1	4.375	0.518	4.0
Adequate preparation of how to teach	2	4.000	0.943	4.0
Able to direct students	3	3.889	1.054	4.0
Enjoy working with high school students	4	3.857	1.345	4.0
Enjoy working with other community agriculture leaders	5	3.556	1.236	4.0
Goal was to teach agriculture	6	3.500	1.309	4.0
Feel teaching effectiveness increased after beginning teaching	7	3.444	1.590	4.0
Able to teach areas that are comfortable	8	3.375	1.061	3.5
Feel adequate to teach students	9.5	3.300	1.160	4.0
Able to work closely with student's parents	9.5	3.300	1.418	4.0
Students interested in vocational agriculture	11	3.250	0.886	3.5
Sufficient technical preparation for profession	12	3.100	1.370	3.0
Adequate salary	13.5	3.000	1.195	3.5
Like the area where, I am presently teaching	13.5	3.000	1.069	3.0
Adequate preparation for organizing and conducting a vocational agriculture program	15	2.778	1.481	2.0
Favorable community attitude towards vocational agriculture	16	2.667	1.323	3.0
Spouse is happy with my being a teacher	17	2.333	1.225	2.0
Adequate administrative support backing on decisions	18	2.000	1.602	1.0
Sufficient facilities and teaching materials	19	1.778	0.667	2.0
I own my own home in this town	20	1.625	1.888	1.0

teaching, (2) those who never taught, and (3) those presently teaching. Table 17 reveals that no significant difference existed among the three groups with regard to the effectiveness of the program.

Effectiveness of Classroom Instructions

Over 50 percent of the respondents rated the effectiveness of classroom instruction as good or very good as shown in Figure 8. Another 37.0 percent rated it as average. Only a little over 12 percent rated the effectiveness of classroom instructions as poor or very poor. The overall mean rating of the effectiveness of classroom instruction perceived by the three groups was 2.47, half way between average and good. The means for the groups were calculated using a scale with effectiveness values assigned as follows: Very poor = 5, Poor = 4, Average = 3, Good = 2, Very Good = 1. One-way analysis of variance was used to test for differences among the means for the three groups of respondents: (1) those who entered and left teaching, (2) those who never taught, and (3) those presently teaching. Table 17 reveals that no significant difference existed among the three groups with regard to the effectiveness of classroom instruction.

Effectiveness of Guidance and Supervision

Respondents were asked to rate the overall guidance and supervision they received during the program (Figure 9). A little over 49 percent of the respondents indicated that guidance and supervision was good or very good. Another 24.1 percent thought it was average, and 26.8

PROGRAM EFFECTIVENESS

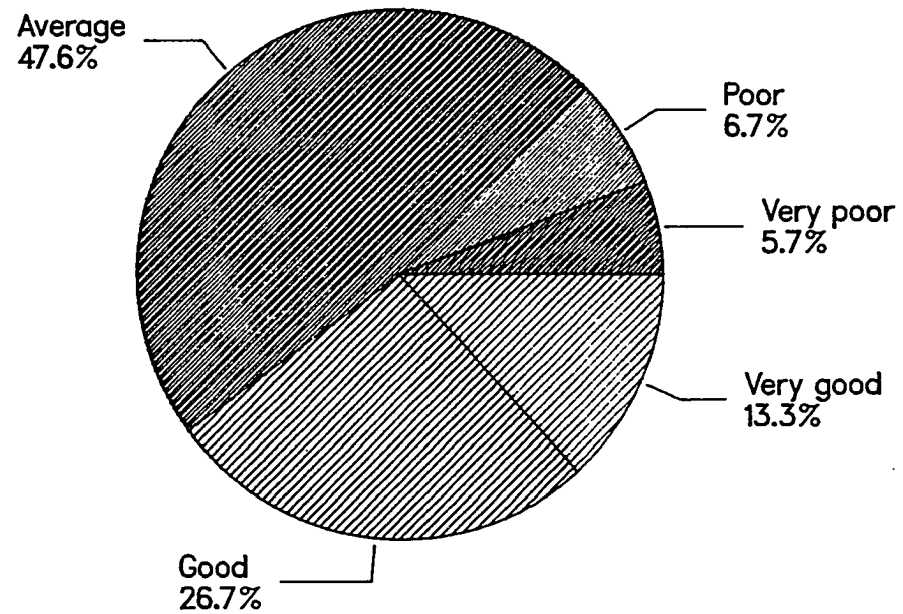


FIGURE 7. Respondents' perception of the program for preparation for present job (N=105)

EFFECTIVENESS OF CLASSROOM INSTRUCTIONS

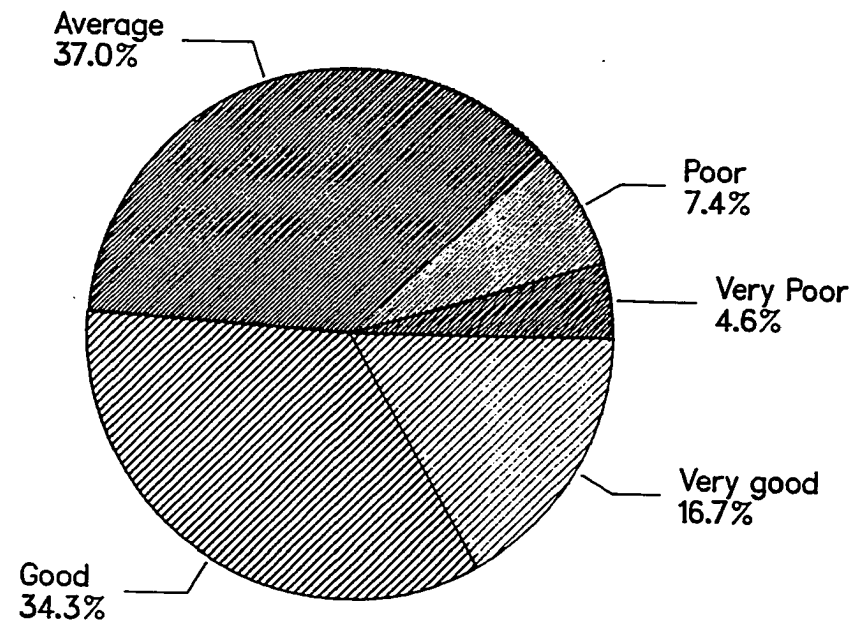


FIGURE 8. Perceptions regarding effectiveness of classroom instruction (N=108)

percent felt it was poor or very poor. A comparison was made of the mean ratings for guidance and supervision by the three teaching experience groups. The means for the groups were calculated using a scale with values assigned as follows: Very poor = 5, Poor = 4, Average = 3, Good = 2, Very Good = 1. One-way analysis of variance was used to test for differences among the means for the three groups of respondents: (1) those who entered and left teaching, (2) those who never taught, and (3) those presently teaching. Table 17 reveals that no significant difference existed among the three groups with regard to the effectiveness of guidance and supervision received by the graduates. However, the F probability of 0.06, which is close to significance, is accounted for by the major difference of the mean rating of Group 2 (2.55) from that of Group 1 and 3 (3.33 and 3.30 respectively).

Adequacy of Training

Respondents were asked to rate the adequacy of training received in 19 selected skill areas in view of their university post-graduate experiences and present occupation. The skill areas, which form part of the Agricultural Education Program of the University were: functional Urdu (language in Pakistan), social sciences, soil science, plant physiology, ecology and taxonomy, horticulture, animal science, agronomy, food technology, plant pathology, entomology, floriculture, introduction to agricultural education and farm guide movement, educational psychology, adult education and agricultural extension method, principles of education and curriculum development, methods of

GUIDANCE AND SUPERVISION

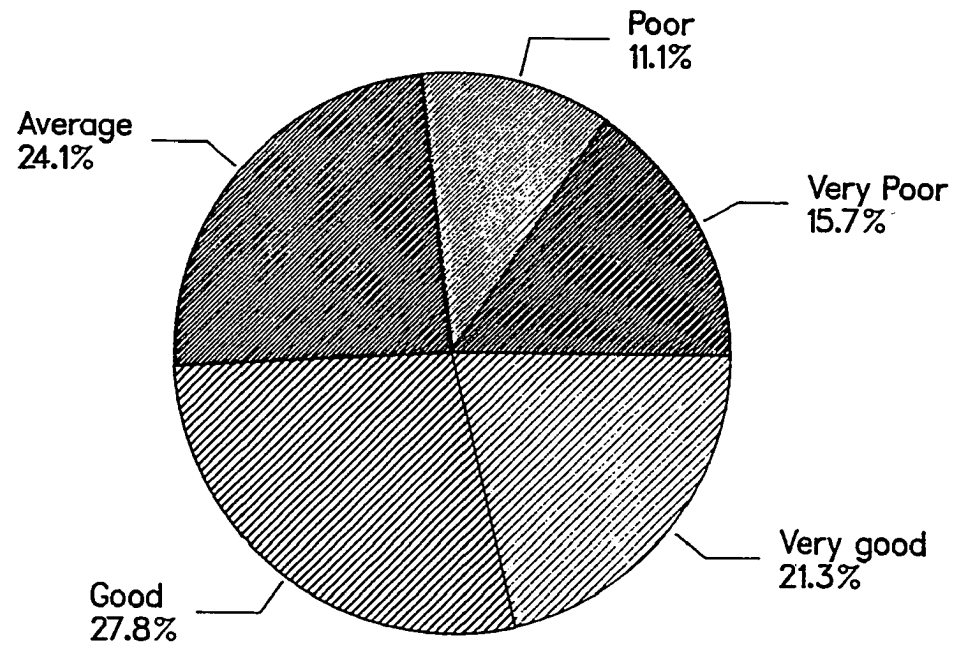


FIGURE 9. Perceptions regarding effectiveness of guidance and supervision (N=108)

TABLE 17. Analysis of variance of respondents' perceptions regarding program effectiveness

Effectiveness Measures	Group ¹ 1	Group ² 2	Group ³ 3	Total Group	F Value	F Prob.
	<u>Mean</u> <u>S.D.</u>	<u>Mean</u> <u>S.D.</u>	<u>Mean</u> <u>S.D.</u>	<u>Mean</u> <u>S.D.</u>		
Program	<u>2.83</u> <u>0.83</u>	<u>3.43</u> <u>0.99</u>	<u>3.20</u> <u>1.03</u>	<u>3.34</u> <u>0.99</u>	2.08	0.13
Classroom						
instructions	<u>2.58</u> <u>0.99</u>	<u>2.39</u> <u>3.00</u>	<u>3.00</u> <u>0.67</u>	<u>2.47</u> <u>1.01</u>	1.73	0.18
Guidance and						
supervision	<u>3.33</u> <u>1.57</u>	<u>2.55</u> <u>1.31</u>	<u>3.30</u> <u>1.16</u>	<u>2.71</u> <u>1.35</u>	2.94	0.06

¹ Group 1 = Taught and left teaching (N=12).

² Group 2 = Never taught (N=86).

³ Group 3 = Presently teaching (N=10).

teaching science and agriculture, practice teaching, school organization and health education, and statistics. To compute the mean ratings, the responses were assigned values as follows: Very Poor = 1, Poor = 2, Average = 3, Good = 4, Very Good = 5. Data in Table 18 reveal the mean responses for the 19 skill areas. Thirteen of the areas had mean ratings of 3.0 and above. Adult education and agricultural extension methods ranked first with a total group mean rating of 3.48, followed by educational psychology, 3.39. The skill areas with the lowest total group mean ratings (below 3.0) were: statistics, soil science, entomology and floriculture, food technology, and functional Urdu.

Using the analysis of variance test, a comparison was made of the mean ratings for the three agricultural teaching experience groups. No significant difference was observed in the means for 18 of the 19 skill areas, as revealed in Table 18. Means for the skill dealing with principles of education and curriculum development were significantly different at 0.01 level. The Scheff'e test revealed that respondents who had never taught and those who had taught and left teaching rated the skill significantly higher than those who were teaching. There was, however, no significant difference in the rating of the rest of the skills in terms of adequacy of training received.

Amount of Coursework Required in Skill Areas

The respondents were asked to indicate if the amount of coursework required in the 19 selected skill areas should be decreased, maintained or increased. The graduates' perceptions are presented in Table 19.

TABLE 18. Means, standard deviations, and F values for adequacy of training received in skill areas as perceived by respondents

Skill Areas	Group ¹	Group ²	Group ³	Total	F Value	F Prob.
	1	2	3	Group		
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.		
Adult ed. and ag. ext. methods	<u>3.46</u> 1.51	<u>3.52</u> 1.02	<u>3.11</u> 1.27	<u>3.48</u> 1.10	0.55	0.58
Educational psychology	<u>3.00</u> 1.56	<u>3.52</u> 1.14	<u>2.78</u> 0.97	<u>3.39</u> 1.20	2.21	0.12
Agronomy	<u>3.36</u> 1.12	<u>3.37</u> 1.00	<u>3.14</u> 1.46	<u>3.35</u> 1.04	0.14	0.87
Social sciences	<u>3.50</u> 1.45	<u>3.38</u> 1.03	<u>2.78</u> 0.97	<u>3.34</u> 1.09	1.40	0.25
Methods of teaching science and ag.	<u>3.08</u> 1.38	<u>3.34</u> 1.09	<u>3.22</u> 1.09	<u>3.30</u> 1.12	0.30	0.74
Principle of ed. and curriculum development	<u>3.00</u> 1.54	<u>3.41</u> 1.04	<u>2.22</u> 1.09	<u>3.25</u> 1.16	4.97	0.01 2 > 1,3
Introduction to ag. ed. and farm guide movement	<u>3.46</u> 1.29	<u>3.21</u> 1.14	<u>3.00</u> 1.12	<u>3.22</u> 1.15	0.39	0.68
Plant pathology	<u>3.17</u> 1.27	<u>3.28</u> 1.02	<u>2.57</u> 1.40	<u>3.21</u> 1.09	1.36	0.26
Plant physiology, ecology & taxonomy	<u>3.00</u> 1.28	<u>3.25</u> 1.13	<u>2.78</u> 1.20	<u>3.10</u> 1.28	0.83	0.44

¹ Group 1 = Taught and left teaching (N=12).

² Group 2 = Never taught (N=86).

³ Group 3 = Presently teaching (N=10).

Table 18 (continued)

Skill Areas	Group ¹	Group ²	Group ³	Total	F Value	F Prob.
	1	2	3	Group		
	<u>Mean</u> S.D.	<u>Mean</u> S.D.	<u>Mean</u> S.D.	<u>Mean</u> S.D.		
Practice teaching	<u>2.75</u> 1.36	<u>3.08</u> 1.24	<u>3.67</u> 1.32	<u>3.10</u> 1.26	1.38	0.26
Animal science	<u>2.91</u> 1.30	<u>3.10</u> 1.01	<u>2.50</u> 1.31	<u>3.02</u> 1.08	1.19	0.31
School organization & Health education	<u>2.50</u> 1.38	<u>3.09</u> 1.26	<u>3.00</u> 1.00	<u>3.01</u> 1.25	1.16	0.32
Horticulture	<u>2.92</u> 1.17	<u>3.03</u> 1.02	<u>2.89</u> 0.93	<u>3.00</u> 1.02	0.12	0.89
Statistics	<u>3.17</u> 1.53	<u>2.99</u> 1.06	<u>2.13</u> 1.13	<u>2.94</u> 1.15	2.39	0.09
Soil science	<u>2.90</u> 1.10	<u>2.96</u> 1.21	<u>2.50</u> 1.60	<u>2.91</u> 1.23	0.50	0.61
Entomology	<u>2.58</u> 1.24	<u>2.92</u> 1.28	<u>2.78</u> 1.39	<u>2.87</u> 1.28	0.38	0.69
Floriculture	<u>2.83</u> 1.40	<u>2.87</u> 1.07	<u>3.00</u> 1.41	<u>2.87</u> 1.40	0.06	0.95
Food technology	<u>2.92</u> 1.17	<u>2.85</u> 1.12	<u>2.33</u> 1.23	<u>2.80</u> 1.13	0.88	0.42
Functional Urdu	<u>2.67</u> 1.23	<u>2.63</u> 1.08	<u>2.75</u> 0.89	<u>2.65</u> 1.07	0.05	0.96

Group 1, those who entered and left teaching profession, indicated, that the amount of coursework should be increased in the following skill areas: functional Urdu (87.5 percent), soil science (60.0 percent), entomology (85.7 percent), floriculture (66.7 percent), and school organization and health education (57.1 percent). They also indicated that less coursework was required in the areas of practice teaching (42.9 percent), and introduction to agricultural education and farm guide movement (42.9 percent). Respondents who decided not to teach (Group 2) felt an increase in coursework should be required in functional Urdu (67.6 percent), soil science (61.5 percent), agronomy (59.4 percent), educational psychology (52.2 percent), adult education and agricultural extension method (53.6 percent), practice teaching (56.9 percent), and school organization and health education (52.3 percent). Group 3, those respondents continuing to teach, felt the amount of coursework in the following skill areas should be increased: social science (62.5 percent), plant physiology, ecology, and taxonomy (50.0 percent), agronomy (66.7 percent), floriculture (57.1 percent), and statistics (75.0 percent). As a total group the majority of respondents felt the amount of coursework required should be maintained for all skill areas except six skill areas where respondents indicated the amount of coursework should be increased. They are: functional Urdu (67.1 percent), soil science (55.1 percent), agronomy (55.7 percent), floriculture (49.3 percent), educational psychology (52.4 percent), adult education and extension method (50.6 percent), and practice teaching (53.1 percent).

TABLE 19. Comparison of graduates' perceptions of the amount of coursework required in skill areas by teaching experience

Skill area	GROUP ¹								GROUP ²			
	Decrease		Maintain		Increase		Total		Decrease		Maintain	
	N	%	N	%	N	%	N	%	N	%	N	%
Functional Urdu	0	00.0	1	12.5	7	87.5	8	100	2	2.9	20	29.4
Social sciences	0	00.0	5	71.4	2	28.6	7	100	1	1.4	36	51.4
Soil science	0	00.0	2	40.0	3	60.0	5	100	1	1.5	24	36.9
Plant physiology, ecology and taxonomy	1	14.3	3	42.9	3	42.9	7	100	7	10.6	35	53.0
Horticulture	0	00.0	4	57.1	3	42.9	7	100	3	4.5	32	47.8
Animal science	0	00.0	3	50.0	3	50.0	6	100	4	6.3	32	50.8
Agronomy	0	00.0	4	57.1	3	42.9	7	100	2	3.1	24	37.5
Food technology	2	28.6	4	57.1	1	14.3	7	100	5	7.9	30	47.6
Plant pathology	1	16.7	4	66.7	1	16.7	6	100	3	4.8	34	54.0
Entomology	0	00.0	1	14.3	6	85.7	7	100	3	4.7	33	51.6
Floriculture	0	00.0	2	33.3	4	66.7	6	100	2	3.3	30	49.2
Introduction to agricultural education and farm guide movement	3	42.9	4	57.1	0	00.0	7	100	7	10.4	34	50.7
Educational psychology	1	16.7	4	50.0	2	33.3	6	100	2	3.0	30	44.8
Adult education and agricultural extension method	0	00.0	4	57.1	3	42.9	7	100	1	1.4	31	44.9
Principles of education and curriculum development	1	14.3	5	71.4	1	14.3	7	100	7	10.1	35	50.7
Methods of teaching science and agriculture	2	28.6	4	57.1	1	14.3	7	100	2	2.9	33	48.5
Practice teaching	3	42.9	2	28.6	2	28.6	7	100	3	4.6	25	38.5
School organization and health education	1	14.3	2	28.6	4	57.1	7	100	3	4.6	28	43.1
Statistics	1	14.3	3	42.9	3	42.9	7	100	7	10.1	37	53.6

¹ Group 1 = Taught and left teaching (N=12).

² Group 2 = Never taught (N=86).

³ Group 3 = Presently teaching (N=10).

⁴ Group Total: total responses were more by one respondent because one respondent did not classify into any of the three teaching group experiences, but did respond to the items dealing with the amount of coursework required (question 16 on the questionnaire).

GROUP ²								GROUP ³								GROUP ⁴							
2								3								Total							
Maintain	Increase	Total	Decrease	Maintain	Increase	Total	Decrease	Maintain	Increase	Total	Decrease	Maintain	Increase	Total	Decrease	Maintain	Increase	Total	Decrease	Maintain	Increase	Total	Decrease
N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
20	29.4	46	67.6	68	100	0	00.0	4	50.0	4	50.0	8	100	2	2.4	26	30.6	57	67.1	85	100		
36	51.4	33	47.1	70	100	1	12.5	2	25.0	5	62.5	8	100	2	2.3	43	50.0	41	47.7	86	100		
24	36.9	40	61.5	68	100	2	28.6	5	31.4	0	00.0	7	100	3	3.8	32	41.0	43	55.1	78	100		
35	53.0	24	36.4	66	100	1	12.5	3	37.5	4	50.0	8	100	9	11.0	42	51.2	31	37.8	82	100		
32	47.8	32	47.8	67	100	4	50.0	4	50.0	0	00.0	8	100	3	3.6	41	49.4	39	47.0	83	100		
32	50.8	27	42.9	63	100	1	12.5	4	50.0	3	37.5	8	100	6	7.7	39	50.0	33	42.3	78	100		
24	37.5	38	59.4	64	100	0	00.0	2	33.3	4	66.7	6	100	2	2.6	31	39.7	45	57.7	78	100		
30	47.6	28	44.4	63	100	0	00.0	6	75.0	2	25.0	8	100	8	10.1	40	50.6	31	39.2	79	100		
34	54.0	26	41.3	63	100	0	00.0	5	83.3	1	16.7	6	100	4	5.3	44	57.3	28	36.8	76	100		
33	51.6	28	73.8	64	100	0	00.0	6	75.0	2	25.0	8	100	3	3.7	41	51.2	36	45.0	80	100		
30	49.2	29	47.5	61	100	0	00.0	3	42.9	4	57.1	7	100	3	4.0	35	46.7	37	49.3	75	100		
34	50.7	26	38.8	67	100	0	00.0	2	25.0	6	75.0	8	100	10	12.0	44	53.0	29	34.9	83	100		
30	44.8	35	52.2	67	100	0	00.0	2	25.0	6	75.0	8	100	3	3.7	36	43.9	43	52.4	82	100		
31	44.9	37	53.6	69	100	0	00.0	5	62.5	3	37.5	8	100	1	1.2	41	48.2	43	50.6	85	100		
35	50.7	27	39.1	69	100	2	25.0	3	37.5	3	37.5	8	100	10	11.8	44	51.8	31	36.5	85	100		
33	48.5	33	48.5	68	100	0	00.0	7	87.5	1	12.5	8	100	5	6.0	44	52.4	35	41.7	84	100		
25	38.5	37	56.9	65	100	0	00.0	4	50.0	4	50.0	8	100	7	8.6	31	38.3	43	53.1	81	100		
28	43.1	34	52.3	65	100	0	00.0	6	75.0	2	25.0	8	100	5	4.5	36	32.7	40	36.4	81	100		
27	53.6	25	36.2	69	100	0	00.0	2	25.0	6	75.0	8	100	9	10.6	42	49.4	34	40.0	85	100		

Objective 4: To determine how graduates perceived the attitudes of others towards the agricultural education program

The respondents' perceptions of the attitude of the Agricultural Education staff toward the program are presented in Figure 10. Over half (54.1 percent) of the respondents perceived that the staff had a favorable attitude toward the program. Another 30.3 percent perceived staff's attitude as very favorable. Only 14.7 percent perceived staff's attitude toward the program as unfavorable. Overall, the respondents perceived that the staff have a favorable to very favorable attitude toward the program.

Figure 11 illustrates the perceptions of respondents regarding the attitudes of peers towards the program. Almost two-thirds, 62.4 percent, of the respondents felt the attitudes of peers toward the program were unfavorable to very unfavorable. One-third 32.1 percent, indicated that peer attitude was favorable. Only 5.5 percent indicated that it was very favorable.

The means for the groups were calculated using a scale with values assigned as follows: Very favorable = 1, Favorable = 2, Unfavorable = 3, and Very unfavorable = 4. A one-way analysis of variance test was used to test for significant differences among means for the three groups of respondents based on teaching experience. Results of the ANOVA test (Table 20) reveal that the means for the groups were not significantly different at the 0.05 level.

STAFF'S ATTITUDE TOWARDS THE PROGRAM

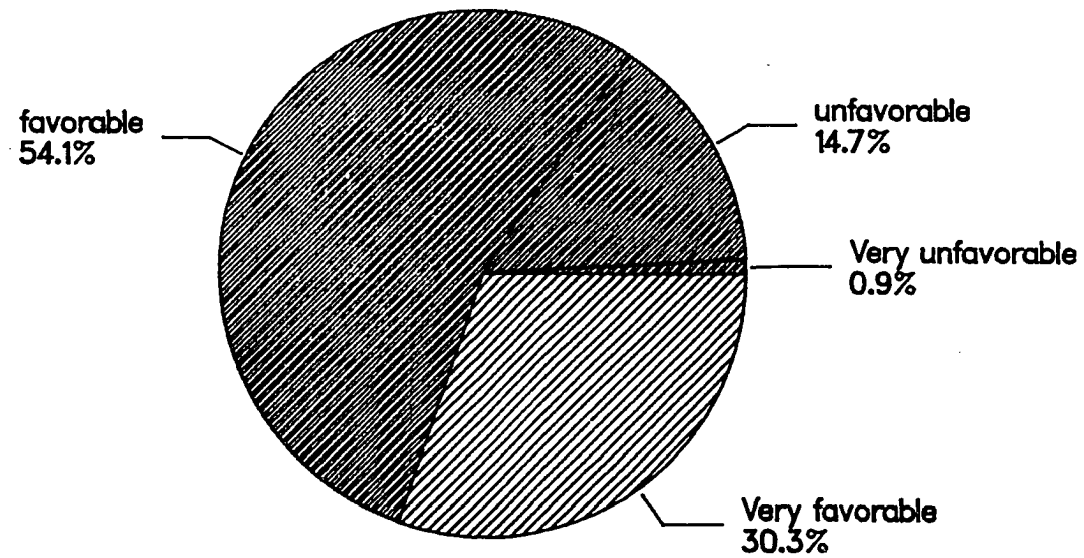


FIGURE 10. Perceptions of graduates regarding staff attitude towards the program (N=109)

PEER'S ATTITUDE TOWARDS THE PROGRAM

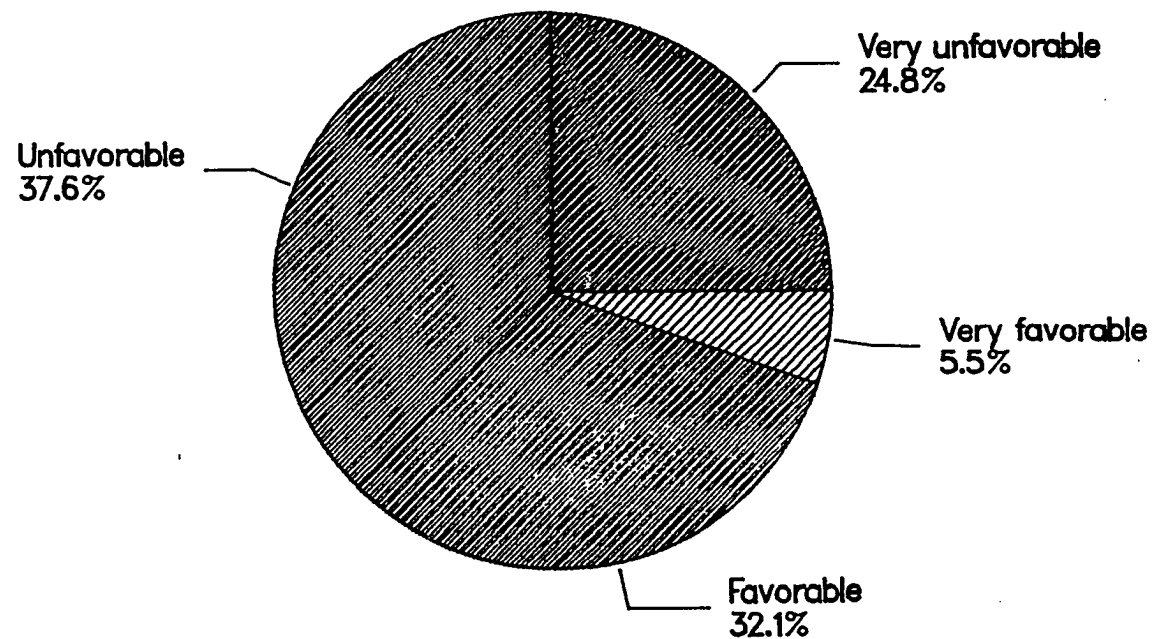


FIGURE 11. Perceptions of graduates regarding attitudes of peer towards the program (N=109)

TABLE 20. Analysis of variance of respondents' perceptions of other's attitudes toward the program

Respondents' Perceptions	Group ¹ 1	Group ² 2	Group ³ 3	Total Group	F Value	F Prob.
	<u>Mean</u> S.D.	<u>Mean</u> S.D.	<u>Mean</u> S.D.	<u>Mean</u> S.D.		
Staff's attitude						
toward the program	<u>1.58</u> 0.51	<u>1.92</u> 0.73	<u>1.70</u> 0.48	<u>1.86</u> 0.69	1.53	0.22
Peer's attitude						
toward the program	<u>2.82</u> 0.98	<u>2.84</u> 0.85	<u>2.60</u> 1.08	<u>2.82</u> 0.88	0.36	0.70

¹ Group 1 = Taught and left teaching (N=12).

² Group 2 = Never taught (N=86).

³ Group 3 = Presently teaching (N=10).

Objective 5: To investigate achievements attained by graduates

Two-thirds of the respondents continued in master's degree program, a total of 68 graduates. Table 21 shows the major area of study for those who pursued the master's degree. Out of the 68 respondents, 38.2 percent kept agricultural education as a major for their higher education. Another 27.9 percent enrolled in the agricultural extension major. The remaining respondents selected a major for the master's degree in food technology, agricultural economics, animal science, soil science, horticulture, livestock management, agronomy, farm management, plant protection and fiber technology.

Respondents who did not major in agricultural education at the master's degree level were asked to indicate why they changed their major area of study. The main reasons found were: 1) greater employment opportunities in areas other than agricultural education, 2) dislike teaching, 3) desire to work for the government, 4) limited recognition of the agricultural education degree, and 5) limited social status associated with the agricultural education degree.

New Choice for a Field of Study

Respondents were asked to indicate what field of study they would select if they were beginning their university education now. The data presented in Figure 12 reveal that 46.7 percent indicated a field other than agricultural education, but within agriculture. About one-third (38.3 percent) indicated the same field. Only 15 percent of the

TABLE 21. Respondents' major in master's degree program

Majors	Frequency	Percent
1. Agriculture education	26	38.2
2. Agriculture extension	19	27.9
3. Food technology	6	8.8
4. Agricultural economics	5	7.4
5. Animal nutrition	3	4.4
6. Soil science	3	4.4
7. Horticulture	1	0.9
8. Livestock management	1	0.9
9. Agronomy	1	0.9
10. Farm management	1	0.9
11. Plant protection	1	0.9
12. Fiber technology	1	0.9
Total	68	100

respondents indicated a field of study outside of agriculture.

Respondents were asked which major within the agriculture field they would select now, if given a choice. The data presented in Table 22 reveal that agronomy, agriculture extension and agricultural economics were the top three areas identified by the respondents.

Respondents Willingness to Accept Pay Grade 17

Respondents were asked if they would be interested in teaching now if they received National Pay Grade 17 (See Appendix D). Data presented in Table 23 reveal that less than half, (43.6 percent) of the respondents, would accept teaching positions if they were given the National Pay Grade 17. More than half, 55.5 percent, of the respondents

FIELD OF STUDY

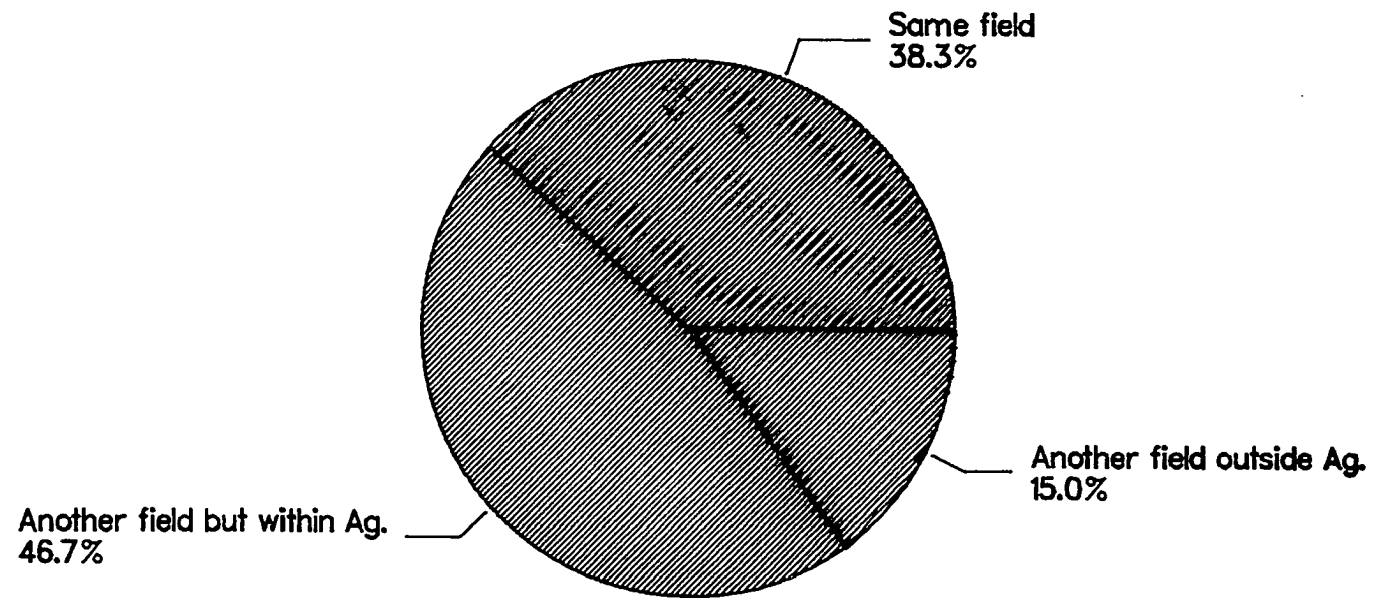


FIGURE 12. New field of study (N=107)

TABLE 22. Respondents identification of new field of study

Majors	Frequency	Percent
1. Agronomy	8	16.3
2. Agriculture extension	8	16.3
3. Agricultural economics	6	12.2
4. Entomology	3	6.1
5. Plant pathology	2	4.1
6. Plant protection	2	4.1
7. Horticulture	2	4.1
8. Animal husbandry	2	4.1
9. Economics	2	4.1
10. Soil science	2	4.1
11. Soil physics	1	2.0
12. Agriculture marketing	1	2.0
13. Farm management	1	2.0
14. Administration	1	2.0
15. Political science	1	2.0
16. Commerce	1	2.0
17. Medical degree	1	2.0
18. Rural sociology	1	2.0
19. Statistics	1	2.0
20. Business administration	1	2.0
21. Education	1	2.0
22. Marketing	1	2.0
Total	49	100

said they were not interested in teaching even if given pay grad 17; thus, indicating that respondents were satisfied with their present salaries.

Figure 13 reveals the present pay grades of the respondents. The majority of the respondents are presently getting Pay Grade 17 or higher. Only a few respondents were still employed with lower National Pay Grades.

PAY SCALE OF RESPONDENTS

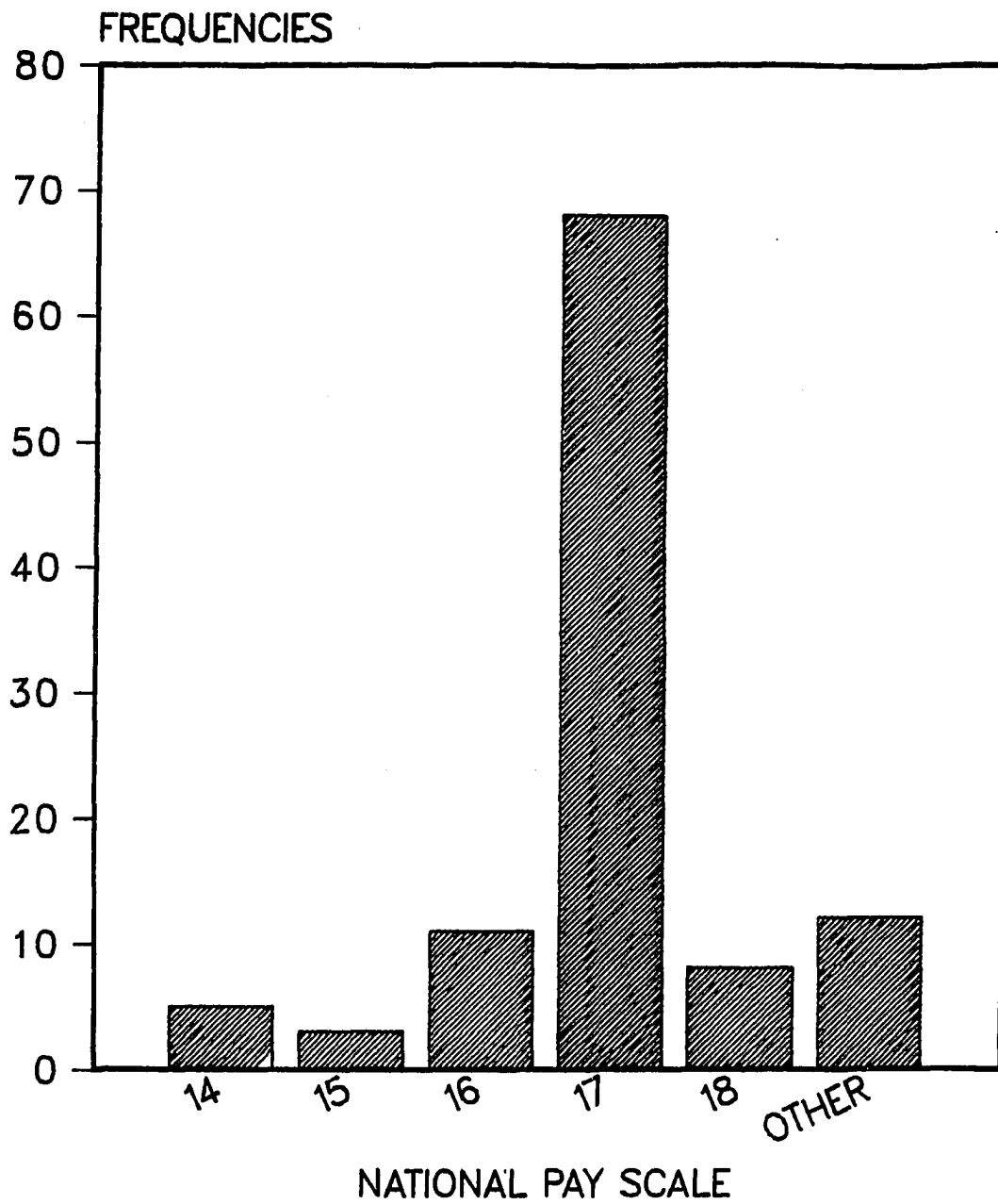


FIGURE 13. Respondents' present pay grade (N=107)

TABLE 23. Respondents willingness to accept Pay Grade 17

Willingness	Frequency	Percent
1. Yes	48	43.2
2. No	61	55.9
3. Missing	1	0.9
Total	110	100

Present Gross Salaries of Respondents

Respondents were asked to indicate their present monthly gross salaries. Data in Figure 14 reveal that the majority of respondents were drawing between 1500 to 3000 Rupees (\$111.52 to \$223.05) per month. Only six respondents were drawing less than 1500 Rupees (\$111.52) per month.

Promotions and Job Security

Respondents were asked to indicate how they felt about their promotions and job security. The data presented in Table 24 reveal that 80.6 percent of the respondents indicated that they felt secure in their jobs. Only 19.4 percent said their jobs were not secure. More than half, 60.4 percent, of the respondents indicated their promotions were on schedule. Only 39.6 percent, said their promotions were not on schedule. In order to test the association among respondents' ratings regarding job security and teaching experience groups, chi-square (χ^2)

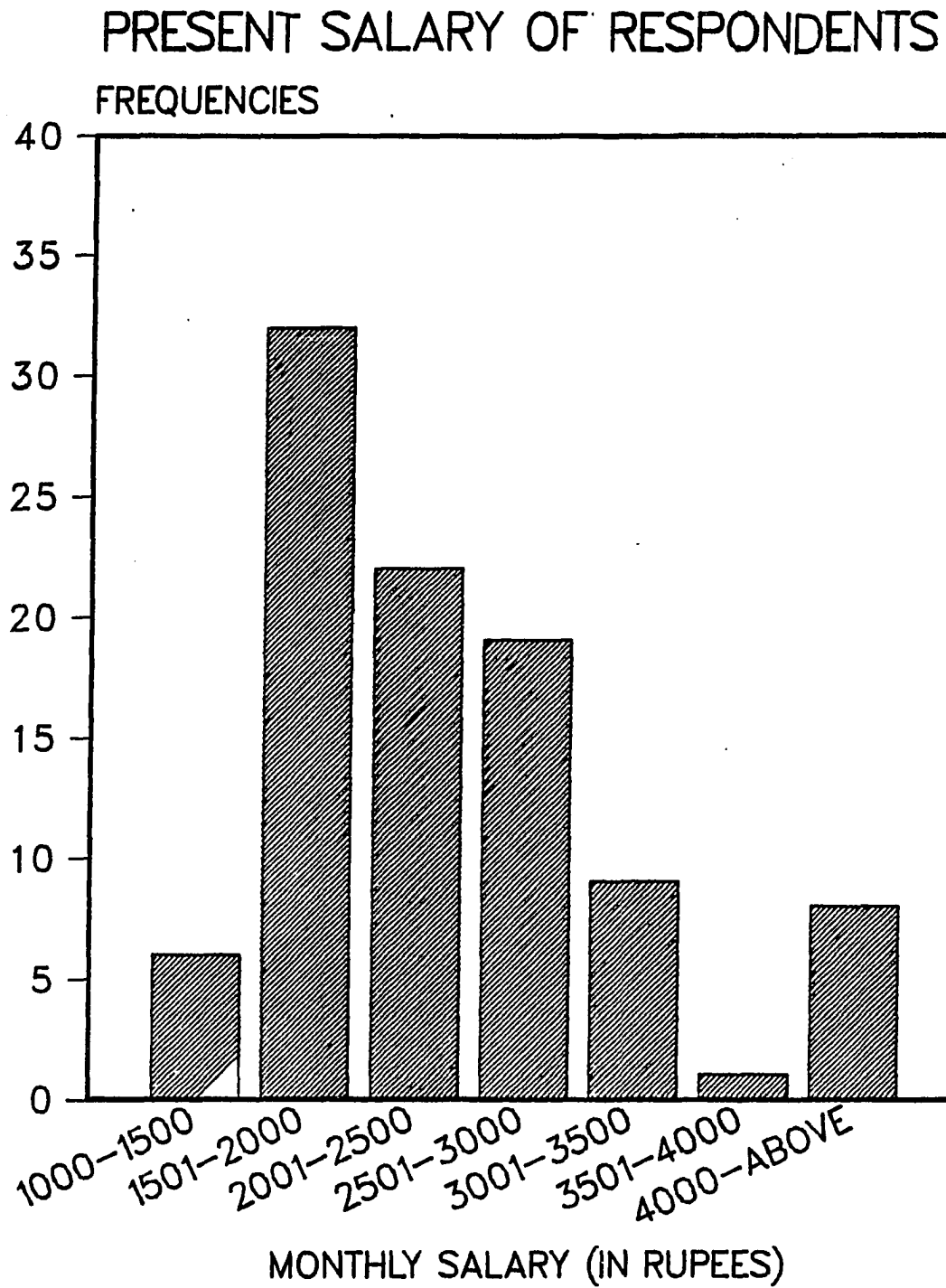


FIGURE 14. Present monthly salaries of the respondents' in rupees (N=97)

values were computed. For the chi-square analysis, two groups were formed: 1) those who taught and left teaching, and those who were continuing teaching were combined as Group 1, and Group 2 consisted of those who never taught at all. The variable run against these groups was job security. The chi-square (χ^2) value in Table 25 was not significant at the 0.05 level, revealing that job security was independent of teaching experience.

TABLE 24. Respondents perceptions about job security and promotions at their present jobs

Perceptions	Yes		No		Total	
	N	%	N	%	N	%
Job security	87	80.6	21	19.4	108	100
Promotion	64	60.4	42	39.6	106	100

TABLE 25. Association between respondents' ratings regarding job security and teaching experience

Teaching Experience	Job Security		Total
	Yes N	No N	
Taught, left teaching and presently teaching	16	5	21
Never taught	70	16	86
Total	86	21	107

Number of missing observations = 3

χ^2 Cal (after Yates correction) = 0.054 P > 0.05 df = 1

CHAPTER V. SUMMARY AND DISCUSSION

The overall purpose of this research was to conduct a follow-up study of the graduates of the Department of Agricultural Education at the University of Agriculture, Faisalabad, Pakistan. Graduates involved in the study were those who completed their degrees between the years 1970 to 1980. Two hundred and eight students graduated from the program, and 148 of the respondents were accessible. Ten of the graduates who were used in pilot testing the questionnaire were excluded from the sample. The remaining 138 constituted the sample for this study. Usable questionnaires were received from 110 graduates, yielding an 80 percent response rate.

The largest number of respondents, 37.3 percent were in 24-27 age group, followed by 29.1 percent in the 28-31 age category. A chi-square (χ^2) test was computed to determine the association between age and teaching group experience of respondents. No significant association was found. It was therefore concluded that age did not influence decisions of respondents as regards choosing teaching as a career. Over half of the respondents, 56.9 percent, were married and the remaining 43.1 percent were single. The chi-square (χ^2) computation revealed no significant association between marital status and teaching experience.

Only about ten percent of the respondents were in the teaching profession, while 27.3 percent were agricultural officers or research officers in government or semi-government organizations, and 23.6 percent were in banks as credit officers. The remaining had careers in the army, government service, extension, sales, and food technologists.

About five percent did not indicate their occupations. The low percentage of the graduates entering the teaching field is partially explained by the then absence of specific positions in high schools to absorb the graduates. However, programs like Integrated Rural Development Program (IRDP) and banks who needed qualified personnel easily absorbed the non-teaching graduates.

Eighty-two percent of the respondents were from farming family backgrounds. The chi-square (χ^2) analysis revealed no significant association between family background and teaching experience. The background of the respondents in this study reflects the actual situation in Pakistan where 80 percent of the population lives in villages. Most (92.6 percent) of the respondents were supported by their parents or guardians during their college education. Only 4.6 percent had scholarships, 1.9 percent had part-time jobs, and 0.9 percent used government loans to finance their college education. These findings are consistent with the tradition in Pakistan that parents are responsible for their children's education.

Respondents reported that the main sources of information about the university program were friends and newspapers. The hope of a better employment opportunity was the main motivating factor for enrollment in the program. Other motivating factors included: it was the only university offering an agricultural education degree program, the only agriculture university in the province, nearness to the university, scholarship awards and lower tuition.

It was observed that many of the graduates had other degree program choices at the time of admission. The choices included: pre-medical program, agricultural engineering, veterinary medicine, pharmacy and textile technology. In regard to job intentions, only 29.2 percent intended to work as teachers when they enrolled in the program. About one-in-three were sure of the kind of job they would get after graduation. Chi-square (χ^2) analysis revealed a significant association between job intentions of the graduates at the time of program enrollment and teaching experience. A substantial number of respondents who taught and left teaching or presently teaching intended to go into teaching at the time of enrollment. Correspondingly, a greater percentage of respondents who never taught did not intend going into teaching at the time of enrollment. However, initially the number of respondents intending to go into teaching profession was strikingly low (only about 31). Thus, it was inevitable that graduates of the program who would end up in teaching profession will be low. Agricultural education graduates found a number of employment upon graduation from the university. These included: the Department of Agriculture, agricultural banks, commercial banks, Integrated Rural Development Program and Water and Power Development Authority. Thirty-two percent indicated that they knew of the availability of teaching positions when they took non-teaching employment.

Newspapers and friends were the primary source of information about jobs for graduates. Other sources were the university placement office, direct contact with employers and the Federal Employment Exchange

Agency. However, a majority of the respondents indicated that they spent ten or more weeks after graduation seeking their first job. This indicates that positions were not readily available for agricultural education graduates, especially in the teaching field. Difficulties identified by the graduates in finding a job were: competition for few vacancies, needed recommendations, recognition of degree, and few positions related to their training. These findings help to explain the low percentage of graduates who entered teaching.

It appears that the respondents were not initially clear about their job preferences upon enrolling in the program. Inadequate job openings in teaching, coupled with employment opportunities in banks and other areas, lured graduates away from the teaching profession.

Respondents were grouped according to teaching experiences as follows: (1) those who taught and left teaching, (2) those who never taught and (3) those who are presently teaching.

Only about 9 percent of the graduates were still teaching at the time of the study. The top five factors that influenced these graduates to enter and remain in teaching were: able to get students to learn materials, adequate preparation on how to teach, able to direct students, enjoy working with high school students, and enjoy working with other community agriculture leaders. In general the above mentioned factors indicate personal interest in teaching and selfless devotion to the profession.

The top five factors that influenced graduates to leave the vocational agriculture teaching profession after teaching for a period

of time were: inadequate promotional opportunities, little or no opportunity to specialize, inadequate facilities, inavailability of instructional aids and materials, and dislike disciplining students. Chizek (1983) found in his follow-up study at Iowa State University that inadequate promotional opportunities was the third most influential factor in graduates' decisions to enter and then leave the teaching professions. Those factors having the least influence on the graduates of the program to leave the teaching profession were: too many meetings to attend as a vocational agriculture instructor, dislike students attitude, students lack of interest, and inadequate preparation for teaching. Chizek also reported this factor of inadequate preparation for teaching as one of the least influential factors in his study. In contrast to those who remained in teaching (Group 3), the reasons indicated above for leaving the teaching profession were for personal advancement and had nothing to do with ability to teach or not to teach.

It is researcher's contention that special efforts should be made to equip schools with essential instructional aids and materials to facilitate teaching agriculture. Also, teachers should be encouraged to be innovative in improvising and creating teaching aide materials from local resources.

A large percentage of the graduates did not enter the teaching profession. Primary factors involved in making such a decision were: inadequate salary, teaching would not meet wanted social status, and inadequate advancement opportunities. Studies conducted by Chizek (1983), and University of Minnesota (1981) ranked "inadequate salary" as

the third most influential factor in graduates' decisions not to enter the teaching profession. It was found in this study that inadequate salary and poor social acceptance in the community were the main influential factors in the decision not to teach.

As regards to salary, the salary range in the civil service for university graduates in Pakistan is grade 17. However, graduates of the Agricultural Education Program, when absorbed into teaching profession, were placed on salary grade 14 while their counter-parts who secured jobs in areas other than teaching got on to the salary grade 17. On the other hand it was not possible to place the agricultural education program graduates entering teaching on grade 17 because the headmasters of the high schools are on grade 17 or lower grades. This inconsistency frustrates those graduates of the agricultural education program already in teaching to leave, and also bars others from entering into teaching.

The caste system is still very prevalent in Pakistani society. The landlord ranks highest in terms of social status. Teachers are recognized as servants. This puts the teachers at the lowest social status in the community, and this stigma is still strong in the country. This explains the low social status associated with the teaching profession.

A nation wide public relations program should be initiated for purposes of publicizing the teaching profession, helping to boost morale of teachers and also elevating teachers social status in the society. This could be done by proclaiming a National Teachers' Week where teachers would put up exhibitions, workshops, and seminars to educate

the public about their profession. In addition, considerable attention should be paid to improving relations between teachers and parents. A teacher parent-association is one method to effect cordiality and to increase the social recognition of the teaching profession.

Perceptions of the respondents were portrayed regarding the effectiveness of classroom instruction, guidance and supervision, overall preparation for present occupation, adequacy of training and amount of coursework required in selected skill areas. A comparison was also made to see if any differences existed among the three teaching groups. The three groups were: 1) taught and left teaching, 2) never taught, and 3) presently teaching.

Regarding the effectiveness of the program, almost one in three of the respondents indicated that the program was very good or good. A large proportion of the respondents, 47.6 percent, thought the program was average, and only 5.7 percent rated it as very poor. No significant difference was observed in the program effectiveness rating of the groups. It is not surprising that over 87 percent of the participants thought that the program was average or better since they had a sense of job security, and also felt that their training equipped them to do a better job in their present positions. The study revealed that 80.6 percent felt they were secured in their jobs and 60.4 percent felt that their promotions were on schedule. Analysis revealed no significant association between job security and teaching experience.

No significant difference was observed in the mean rating for effectiveness of classroom instruction between the three groups. Over

50 percent of the respondents rated the effectiveness of classroom instruction as good or very good. Another 37 percent rated it as average. Only a little over 12 percent rated the effectiveness of classroom instruction as poor or very poor.

A comparison was made of the respondents mean ratings of guidance and supervision for the three teaching experience groups, using the one-way analysis of variance test. No significant difference existed among the three groups. As a consequence of religious influence, students have great respect for their teachers in Pakistani society; and under no circumstances will they discredit their teachers. It is therefore, nearly impossible to have a true perspective of students evaluation of their teachers. Most of the students are obligated by religious discipline to praise, obey and emulate their teachers. This explains why a majority of the respondents claimed that classroom instruction, guidance and supervision were near perfect.

Respondents also revealed their perceptions of the adequacy of training received in nineteen selected skill areas in view of their university and post-graduate experiences. Adult education and agricultural extension methods ranked first with a total group mean of 3.48 on a five-point scale, followed by educational psychology, with a rating of 3.39. The skill areas with the lowest total group mean ratings were: entomology, floriculture, food technology, and functional Urdu. Using the analysis of variance test, a comparison was made of the mean ratings for the three teaching experience groups. For the items dealing with the adequacy of training received in principles of

education and curriculum development, those respondents who were still teaching rated the items significantly lower than both of the other two groups at the 0.05 level. This was expected since only those in teaching were concerned with curriculum issues. There was, however, no significant difference in the rating of the other 18 skills in terms of adequacy of training received.

The respondents opinions regarding the adequacy of coursework in the 19 skill areas were similar for the three teaching experience groups, except in four skill areas: soil science, practice teaching and methods of teaching science and agriculture, and introduction to agricultural education and farm guide movement.

In the area of soil science, Groups 1 and 2, indicated that more coursework should have been required than Group 3. Also, in the skill areas of practice teaching and methods of teaching science and agriculture, respondents who taught and left teaching (Group 1), indicated less coursework should have been required than Group 2. In the area of introduction to agricultural education and farm guide movement, Group 1 thought less coursework was required than Group 2, who also felt the need for less coursework than Group 3. The group who was in teaching undoubtedly had more concern for principles of teaching than course content areas like soil science. Also, vocational teachers were more concerned with practical and applied aspects of agriculture than areas which seem more theoretical and involving more coursework. On the other hand, it is not surprising that the group who never taught found the areas of practice teaching and methods of teaching science and

agriculture burdensome, since they did not have to apply such knowledge in their present positions. Also, very important areas for teachers in agriculture are introduction to agriculture education and farm guide movement. It is the researcher's opinion that professionals willing to stay in vocational agriculture teaching must study the areas mentioned above. Perhaps the group that taught and then left teaching did not see the importance of these areas. This may partially explain why these people left teaching.

Respondents perceived the staff having a favorable attitude toward the agricultural education program. Only 15 percent of the respondents perceived the staff as having unfavorable attitudes toward the program. However, almost two-thirds of respondents perceived their peers as having unfavorable attitude toward the agricultural education program. Analysis of variance test revealed no significant difference among the three teaching experience groups on perception of staff's and peer's attitude toward the program.

Since there were no social barriers between the respondents and their peers, respondents were very quick to express their true opinions about their peers attitudes toward the program. Respondents knew that their peers had unfavorable attitudes toward the program and profession and they were not bound by any social pressure to cover it up. On the other hand, respondents, because of religious and social standards regarding respect and honor for their teachers, may have felt compelled to give a favorable rating of their teachers attitudes towards the program.

Two-thirds of the respondents continued for the master's degree. A majority kept Agricultural Education as a major. Another 19 enrolled in agricultural extension a major. Six respondents enrolled in food technology for the master's degree program. Five got admission in to agricultural economics. Another two majors; animal science and soil science, attracted three respondents each. Only one respondent enrolled in each of the following majors: horticulture, livestock management, agronomy, farm management, plant protection and fiber technology.

Those who changed majors upon entering a master's program were asked to indicate their reasons for changing their major area of study. Reasons included: 1) limited employment opportunities in teaching, 2) dislike for teaching, 3) desire to work with the Agriculture Department instead of teaching, 4) B.S. degree was not recognized by the Public Service Commission so they could not get federal jobs, and 5) low social status of teaching in the community. Almost one in two of the respondents indicated they would select an area other than Agricultural Education if they were beginning their university education now. About one-third indicated they would select the same field. Only 15 percent of the respondents indicated a field of study outside of agriculture. Respondents' new choices of majors within the agricultural field were: agronomy, agricultural extension and agricultural economics.

A common problem among the respondents was that they were not aware of job market requirements at the time they entered the program. However, after graduation their knowledge about the job market increased and, therefore, became aware of what was required of them. This could

explain their change of majors after graduation.

Economic reality was beginning to play a decisive role in the choice of majors. Most respondents would therefore, prefer areas of more economic benefit than teaching. At the time of data collection for this study, respondents in other jobs were receiving higher salaries than their counterparts in the teaching profession. A majority of the respondents were getting Pay Grade 17 or higher at the time of the study. A majority of respondents were drawing between 1500 to 3000 Rupees (\$111.52 to \$223.05) per month. Only six respondents were drawing less than 1500 Rupees (\$111.52) per month. Over half (55.5 percent) of the respondents said they would not be interested in teaching even if they received the National Pay Grade 17.

CHAPTER VI. CONCLUSIONS AND RECOMMENDATIONS

The overall purpose of this research was to conduct a follow-up study of the graduates of the Department of Agricultural Education at the University of Agriculture, Faisalabad, Pakistan.

The specific objectives of the study were as follows:

1. To determine demographic characteristics of graduates of the Department of Agricultural Education, University of Agriculture, Faisalabad.
2. To determine factors influencing the career decisions of the graduates.
3. To gather perceptions of graduates regarding the strengths and weaknesses of the program.
4. To determine how graduates perceive the attitudes of others towards the Agricultural Education Program.
5. To investigate achievements attained by graduates.

Two hundred and eight students earned their Bachelor of Science (Honors) degree, with a major in Agriculture Education, from the University of Agriculture, Faisalabad during the period 1970 to 1980 (Malik, 1981). The researcher used three sources to obtain the names and addresses of the graduates: 1) Office of the Department of Agriculture Education, 2) Admission Office, and 3) Office of the Controller of Examination at the University of Agriculture, Faisalabad. One hundred and thirty-eight of the graduates served as the sample for this study. The research design was descriptive in nature. A mailed questionnaire was designed by the researcher for use in data collection.

Usable responses were returned by 110 graduates, yielding a 80 percent response rate. The data collected from the graduates were coded, key punched, and analyzed at Iowa State University Computation Center. The data were analyzed using the statistical package for social sciences (SPSSx, 1983). The sub-programs used in this study were: FREQUENCIES, CROSSTABS AND ONEWAY ANOVA.

Conclusions

Based on the responses of 110 graduates that participated in this study, the following conclusions were drawn:

1. For analysis, the graduates were grouped by their agricultural teaching experience: Group 1, those who entered teaching and then left the profession (11.1 percent); Group 2, those who decided not to teach agriculture (79.6 percent); and Group 3, those who are continuing to teach agriculture (9.3 percent).
2. Only ten (9.3 percent) graduates were found to be in the teaching profession at the time of study. The remainder of the graduates were found in other areas, which include: agriculture/research officer, bank/credit officer, project manager/extension worker, teaching, Army or government service, others, sales manager, and food technologist.
3. Farm family background was not significantly associated with teaching experience.
4. Marital status was not significantly associated with teaching

experience.

5. Age of respondents was independent of teaching experience.
6. Respondents job intentions at the time of enrollment were significantly associated with teaching experience.
7. The most influential factors on the respondents (Group 1) decision to enter and then leave the teaching profession were: inadequate promotional opportunities; little or no opportunity to specialize; inadequate facilities, inavailability of instructional aids and materials; and disliked disciplining students.
8. The most influential factors on the respondents (Group 2) decision not to teach were: inadequate salary; teaching would not meet wanted social status; inadequate advancement opportunities, and other opportunity was available.
9. The most influential factors on the respondents (Group 3) decision to remain in the teaching profession were: able to get students to learn materials, adequate preparation on how to teach, able to direct students, and enjoy working with high school students.
10. A majority of the graduates felt that the Agricultural Education Program was effective in preparing them for their present job.
11. Most of of the respondents rated their classroom instruction and guidance and supervision they received in the program as average or above.

12. No significant difference existed among the three teaching experience groups with regard to the effectiveness of the program, classroom instructions, and guidance and supervision.
13. There was no significant difference in the ratings of skill areas in terms of adequacy of training received by the teaching experience except skill area of principles of education and curriculum development, those respondents who were still teaching rated the item significantly lower than both of the other groups.
14. Respondents felt the amount of coursework required in the agricultural education program should be maintained in all skill areas except: functional Urdu, soil science, agronomy, educational psychology, adult education and agricultural extension method, and practice teaching. The respondents felt the amount of coursework should be increased in these six skill areas.
15. Respondents perceived that the staff had a favorable attitude toward the program.
16. Respondents felt their peers had an unfavorable attitude toward the Agricultural Education Program.
17. Respondents ratings about job security was independent of teaching experience.
18. Two-thirds of the respondents, continued in a masters degree program.

Recommendations

It is rather unfortunate that the Agricultural Education Program at the University of Agriculture, Faisalabad, Pakistan was terminated. An early follow-up study could have alerted authorities to problems facing the graduates and the program. As Wentling and Lawson (1975, p. 126) stated:

By supplying data on learner performance or on the availability of employment positions, the follow-up can confirm the necessity for maintaining a particular course or program.

They further stated that "follow-up information can provide reasons to explain why former students are not entering specific jobs for which they have been prepared."

In view of a possible reintroduction of the Agricultural Education Program at the University of Agriculture, Faisalabad, Pakistan, or possible introduction of such program at other agriculture universities, the following recommendations are presented for consideration by the universities and the Ministry of Education, in Pakistan:

1. Ministry of Education and university authorities should make agriculture teachers' salaries attractive and competitive with salaries of other professionals in agriculture.
2. An effort should be made to recognize the degree through the Public Service Commission, so that the agricultural education graduates may get government jobs in high schools.
3. If the authorities are interested in specifically preparing vocational agriculture teachers, applicants to the program

should be clearly informed of their future career.

Appropriate positions should then be made available for graduates, instead of leaving them to search for their own jobs.

4. Prospective graduates should be informed of employment opportunities available to individuals completing the agricultural education program including a more effective use of the university placement office and the Federal Employment Exchange Agency.
5. The Ministry of Education in consultation with the Public Service Commission should evolve incentives for professional development and specialization. This will help retain personnel in the teaching profession.
6. To combat the salary controversy, it would be appropriate to create a subject specialist post at high school level specifically for agriculture teachers. Graduates of the Agricultural Education program could be absorbed into these positions with salary grade 17.

The following recommendations are also made for future follow-up studies and other program evaluation efforts:

1. Students who dropped out of the program before graduation can provide data that may suggest alterations needed in programs.
2. The university should maintain a record of the names and current addresses of all alumni to facilitate evaluation efforts.

3. Employers of the graduates should be included in follow-up studies whenever possible to determine employers' perceptions of the graduates' performance on the job.
4. An evaluation study should be conducted specifically to determine the extent objectives set by the Department for creating the Agricultural Education Program in 1967-68 have been achieved.
5. As an alternative to recommendation number 6 above, a feasibility study should be conducted for the purpose of creating a two-year Agricultural Education program. The graduates of such program could then be absorbed into teaching, and also conveniently placed on salary grade 14.
6. Educational need assessment should be done to determine criteria for training graduates for various teaching positions.
7. Follow-up studies should be conducted on a regular basis to provide information necessary for making decisions about programs.

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APPENDIX A: QUESTIONNAIRE



Iowa State University of Science and Technology Ames, Iowa 50011

A Follow-up Study of Agriculture Education Graduates
at the University of Agriculture Faisalabad, Pakistan

Please check (✓) your response or write your answer in the blank provided. Complete the form and return it in the enclosed postage-paid return envelope.

1. Present Age _____
2. Marital Status; Single _____ Married _____
3. Present Occupation _____
4. Do you come from farming family? Yes _____ No _____
5. What was the major source of financial support that made your university degree possible? (check one)

_____ 1) Parents or guardian	_____ 2) Your part-time job
_____ 3) Grants	_____ 4) Scholarship award
_____ 5) Govt. loan program	_____ 6) Personal finances
_____ 7) Other family member	_____ 8) Any other loan
_____ 9) Other (please specify) _____	
6. What was the main source of information suggesting you apply for admission in B.Sc. Ag.Ed.? (check one)

_____ 1) Friend	_____ 2) father/guardian
_____ 3) Teacher	_____ 4) visit to the university
_____ 5) Radio	_____ 6) T.V
_____ 7) News paper	_____ 8) Other
7. What was the main reason for your enrollment at Ag. University rather than another institution? (check one)

_____ 1) Nearness to university.
_____ 2) Lower tuition fee.
_____ 3) Offered Agricultural Education.
_____ 4) A scholarship award.
_____ 5) Father/guardian graduate.
_____ 6) Relatives other than parents were graduates.
_____ 7) Only Agriculture university in Punjab.
_____ 8) A friend was a graduate.
_____ 9) A friend was enrolled or enrolling.
_____ 10) Other (please specify) _____
8. What were other choices you had for admission after your F.Sc.?

9. When you were admitted to the agriculture education program, did you intend to get a job in the area which you were studying?
 1) ☐ Yes 2) ☐ Was not sure 3) ☐ No
10. What were the employment opportunities available soon after you graduated ? (check all that apply)
- | | |
|---|--|
| 1) Teaching. ☐ | 2) Agri. Department ☐ |
| 3) I.R.D.P. ☐ | 4) Bank--- Agri. ☐ |
| | Commercial ☐ |
| 5) Private organization (please specify) <input type="text"/> | |
| 6) Other (please specify) <input type="text"/> | |
11. How did you make contact with your first employer ?
- | |
|--|
| ☐ 1) University of Agriculture placement service |
| ☐ 2) News-papers |
| ☐ 3) Employer contacted me |
| ☐ 4) Friend(s) or other(s) informed me of the opportunity |
| ☐ 5) Employment Exchange |
| ☐ 6) N.D.V.P. |
| ☐ 7) Other (Please specify) <input type="text"/> |
12. After you left the Agri. Edu. program and began actively seeking employment, how long did it take you to get your first job ?
- | | |
|---|--|
| ☐ 1) Already had job | ☐ 2) 0-3 weeks |
| ☐ 3) 4-6 weeks | ☐ 4) 7-9 weeks |
| ☐ 5) 10-12 weeks | ☐ 6) 13 or more |
13. What difficulties did you face in finding a job related to your training ?
14. Were you ever employed as an Agriculture teacher ?
- 1) ☐ No If no, go to question # 15
- 2) ☐ Yes If yes, then at what level and how long were you employed ? Go to question # 15
15. This question has three sections please complete only One section of this question.
- A. If you taught Agri. Edu. and left teaching, answer the blue section
- B. If you never taught, answer the white section
- C. If you are presently teaching, answer the pink section

5

NEVER TAUGHT

15 b. If you never taught after completing the agricultural education program, indicate the level of influence each of the following factors had on your decision not to teach. Circle the appropriate number to indicate the level of influence for each factor.

Example: a. Disliked teaching 1 2 3 4 5
(In this example the factor "dislike teaching" had little influence upon the decision to never teach.)

	None	Very Little	Little	Much	Very Much
a. Bad student teaching experience	1	2	3	4	5
b. Never planned on teaching	1	2	3	4	5
c. Disliked student attitudes	1	2	3	4	5
d. Inadequate salary	1	2	3	4	5
e. Felt inadequate to teach certain subjects	1	2	3	4	5
f. Inadequate preparation on how to teach	1	2	3	4	5
g. Little or no opportunity to specialize	1	2	3	4	5
h. Students lacked interest	1	2	3	4	5
i. Inadequate advancement opportunities	1	2	3	4	5
j. Inadequate technical preparation for the profession	1	2	3	4	5
k. Insufficient preparation for organizing and conducting a vocational agriculture program	1	2	3	4	5
l. Disliked working with high school students	1	2	3	4	5
m. Disliked working in rural areas	1	2	3	4	5
n. Other opportunity was made available out of teaching	1	2	3	4	5
o. Long hours	1	2	3	4	5
p. Trend toward less emphasis on vocational agriculture	1	2	3	4	5
q. Disliked rigid school schedule	1	2	3	4	5
r. Spouse would not have been happy with my being a teacher	1	2	3	4	5
s. Disliked image of the teacher in the community	1	2	3	4	5
t. Teaching would not meet wanted social status	1	2	3	4	5
u. Other (please specify) _____	1	2	3	4	5

P.T.O.

HAVE TAUGHT BUT NOT PRESENTLY TEACHING

15 A. If you have taught Agriculture and left a full-time teaching position, indicate the level of influence each of the following factors had on your decision to leave. Circle the appropriate number to indicate the level of influence for each factor.

Example: a. Disliked teaching 1 2 3 4 5
(In this example, the factor "disliked teaching" had little influence upon the decision to leave teaching)

	None	Very	Little	Little	Much	Very	Much
a. Long range occupational goal was different than teaching vocational agriculture	1	2	3	4	5		
b. Made inadequate salary	1	2	3	4	5		
c. Spouse was not happy with my being a teacher . . .	1	2	3	4	5		
d. Disliked student attitudes	1	2	3	4	5		
e. Inadequate administrative support, on decisions . .	1	2	3	4	5		
f. Inadequate preparation on how to teach	1	2	3	4	5		
g. Socially, teaching profession is not appreciated . .	1	2	3	4	5		
h. Little or no opportunity to specialize	1	2	3	4	5		
i. Long working hours	1	2	3	4	5		
j. Students lacked interest	1	2	3	4	5		
k. Inadequate promotional opportunities	1	2	3	4	5		
l. Too many required extra-curricular activities . . .	1	2	3	4	5		
m. Inadequate facilities, instructional aids and materials available	1	2	3	4	5		
n. Received inadequate assistance from university teacher education staff	1	2	3	4	5		
o. Inadequate technical preparation for the profession	1	2	3	4	5		
p. Inadequate preparation for organizing and conducting a vocational agriculture program	1	2	3	4	5		
q. Disliked working with high school students	1	2	3	4	5		
r. Disliked working in Rural areas	1	2	3	4	5		
s. Disliked disciplining students	1	2	3	4	5		
t. Too many meetings to attend as a vocational agriculture instructor	1	2	3	4	5		
u. Other (please specify) _____	1	2	3	4	5		

P.T.O.

PRESENTLY TEACHING

15 C. If you are presently teaching vocational agriculture, Indicate the level of influence each of the following factors had on your decision to enter the teaching profession and remain in it. Circle the appropriate number to indicate the level of influence for each factor.

Example: a. Like working with adult program . . . 1 2 3 4 5
 (In this example, the factor, "like working" Level of influence
 with adult program had little influence upon
 the decision to enter teaching profession)

	None	Very Little	Little	Much	Very Much
a. Goal was to teach vocational agriculture . . .	1	2	3	4	5
b. Adequate salary	1	2	3	4	5
c. Spouse is happy with my being a teacher . . .	1	2	3	4	5
d. Adequate administrative support, backing on decision	1	2	3	4	5
e. Feel adequate to teach students	1	2	3	4	5
f. Able to get students to learn material . . .	1	2	3	4	5
g. Adequate preparation on how to teach . . .	1	2	3	4	5
h. Feel teaching effectiveness increased after beginning teaching	1	2	3	4	5
i. Able to teach areas that are comfortable . . .	1	2	3	4	5
j. Students interested in vocational agriculture . .	1	2	3	4	5
k. Sufficient facilities and teaching materials . .	1	2	3	4	5
l. Sufficient technical preparation for the profession	1	2	3	4	5
m. Adequate preparation for organizing and conducting a vocational agriculture	1	2	3	4	5
n. Enjoy working with high school students . . .	1	2	3	4	5
o. Like the area where, I am presently teaching . .	1	2	3	4	5
p. Favorable community attitudes towards vocational agriculture	1	2	3	4	5
q. Enjoy working with other community agriculture leaders	1	2	3	4	5
r. Able to direct students	1	2	3	4	5
s. Able to work closely with student's parents . . .	1	2	3	4	5
t. I own my own home in this town	1	2	3	4	5
u. Other (please specify) _____	1	2	3	4	5

P.T.O.

16. In view of your university and post graduation experiences and your present occupation, rate the adequacy of training received in skill areas at the university on a scale from very poor, poor, average, good, and very good. Also, indicate your feelings about the amount of coursework required in each area of the agri. edu. program on a scale decrease, maintain as is, or increase.

Skill areas	Adequacy of Training					Amount of work Required		
	Very Poor	Poor	Average	Good	Very Good	Decrease	Maintain as is	Increase
1. Communication Skill: (Functional Urdu)								
2. Social Sciences: (Rural Sociology, Psychology, Ag. Economics, Islamic studies)								
3. Agricultural Courses:								
a. Soil Science								
b. Plant Physiology, Ecology, & Taxonomy.								
c. Horticulture								
d. Animal Science								
e. Agronomy								
f. Food Technology								
g. Plant Pathology								
h. Entomology								
i. Floriculture								
4. Agricultural Education:								
a. Introduction to Agricultural Education & Farm Guide Movement								
b. Educational Psychology								
c. Adult Education & Agricultural Extension Method								
d. Principles of Education & Curriculum Development								
e. Methods of Teaching Science & Agriculture								
f. Practice Teaching								
g. School Organization & Health Education								
5. Statistics:								

Go to question No. 17
Yellow section form

17. What courses or areas do you feel should be added to Agricultural Education program offerings to better prepare future students ?

18. What courses should be deleted from the program ?

19. How would you rate the effectiveness of your total undergraduate program as preparation for your present occupation ?

_____ 1) Very poor _____ 2) Poor _____ 3) Average
 _____ 4) Good _____ 5) Very good

20. Give your overall assessment of Agri. Edu. staff on:

class room instruction
 when you were a student.
 guidance & supervision
 when you were a student.

	Very good	Good	Average	Poor	Very poor
class room instruction when you were a student.					
guidance & supervision when you were a student.					

21. In general, what was the Agri. Edu. staff's attitude towards the Agri. Edu. program when you were student of the department ?

_____ 1) Very favourable
 _____ 2) Favourable
 _____ 3) Unfavourable
 _____ 4) Very unfavourable

22. What was the attitude of peers studying in other majors towards the agricultural education program ?

_____ 1) Very favourable
 _____ 2) Favourable
 _____ 3) Unfavourable
 _____ 4) Very unfavourable

23. After graduating from the department did you join for a master's or other degree program ?

_____ 1) No → Go to question No. 24
 _____ 2) Yes → If so, then what was your major ? _____

P.T.O.

24. If your major was other than Agricultural Education then why did you change major ? _____

25. Suppose you were now starting your university studies over again, what speciality would you chose ?
 _____ 1) Same field/no change
 _____ 2) Another field within Agri.(specify) _____
 _____ 3) Another field outside Agri.(") _____
26. If NPS 17 is offered, would you consider becoming or continuing teaching in Agriculture Education ?
 _____ 1) Yes
 _____ 2) No
27. What is your basic pay scale? _____
28. What is your present monthly pay? _____
29. Is your salary level equal to other employees in similar jobs with similar experience?
 _____ 1) Yes
 _____ 2) No
30. Have your promotion(s) been on schedule?
 _____ 1) Yes
 _____ 2) No (please specify) _____

31. Do you think your present job is secure?
 _____ 1) Yes
 _____ 2) No
32. What suggestions do you have for improving the program of Agricultural Education? _____

Please return the completed form in the enclosed postage-paid addressed envelope

THANK YOU FOR YOUR TIME AND COOPERATION

APPENDIX B: COVER LETTERS



Tele { Phone : 25911/Ext. 70
Gram : Agrivarsity

University of Agriculture, Faisalabad

No. R.S. _____

Dear Graduate:

You, as a graduate of the Department of Agricultural Education are one of our most valuable sources for suggestions on how to improve our program. Your cooperation will help us to point out draw backs of the suspended program of Agri. Education.

Before mailing the original form entitled "A follow-up study of agriculture education graduates at the university of agriculture Faisalabad, Pakistan.", it was necessary to know your where about.

Kindly fill in the enclosed form and send it in the stamped envelope within a week time.

Your co-operation will be highly appreciated.

Sincerely yours,

Niaz Hussain Malik

Niaz Hussain Malik
Department of Agri. Education
University of Agriculture, Faisalabad

Muhammad Shafiq

Muhammad Shafiq
Graduate Student
Iowa State University Ames, Iowa.

Dated March 16, 1984

Please detach it from here and mail in the enclosed envelope

Sr. No. _____

Name of the Graduate:-----

Father's Name:-----

Year of Graduation:-----

Present address for correspondence:-----



Tele { Phone : 25911/Ext. 70
Gram : Agrivarsity

University of Agriculture, Faisalabad

No. R.S. _____

Dear Graduate,

I hope you would have received our first letter of March 16, 1984. This is just to remind you about that letter. The information required may please be supplied to the undersigned up to April 30, 1984, as it is badly required as mentioned in the first letter.

Your early response will be highly appreciated.

Sincerely yours,

Niaz Hussain Malik

Niaz Hussain Malik
Department of Agri. Education
University of Agriculture, Faisalabad

Muhammad Shafiq

Muhammad Shafiq
Graduate Student
Iowa State University Ames, Iowa.

Dated: April 14, 1984

Please detach it from here and mail in the enclosed envelope

Sr. No.

Name of the Graduate:-----

Father's Name:-----

Year of Graduation:-----

Present address for correspondence:-----



Tele { Phone : 25911/Ext. 70
Gram : Agriversity

University of Agriculture, Faisalabad

No. R.S. _____

Dear Graduate:

We are conducting a follow-up study of former graduates, and would much appreciate your help in completing the enclosed form.

You are our best source of feed-back information and your responses will help us determining the realistic view of work pattern of our former graduates, and plan what kind of training programs should be designed in the future.

Would you please help us in our efforts by taking a few minutes to complete and return this form?

We are enclosing a stamped envelope, and hope to receive your reply by July 15, 1984.

Please be assured that all information you supply will be held in strict confidence and that your name will never be associated with any response.

We appreciate your cooperation in this important effort.

Sincerely yours,

Niaz Hussain Malik
Department of Agri. Education
University of Agriculture, Faisalabad

Muhammad Shafiq
Graduate Student
Iowa State University Ames, Iowa.

Dated: July 5, 1984



Tele { Phone : 25911, Ext. 70
Gram : Agrivarsity

University of Agriculture, Faisalabad

No. R.S. _____

Dear Graduate:

The response to our request for information from former graduates of the department have been most gratifying.

Perhaps the first form we sent to you has been mislaid. We are, therefore enclosing another copy of the form and pre-addressed, postage paid return envelope for your convenience.

We hope to have responses from our former graduates so that the information will be as complete as possible.

Would you please complete the form and mail it to us today?

Your cooperation is highly appreciated. The answers will remain anonymous.

Sincerely yours,

Niaz Hussain Malik

Niaz Hussain Malik
Department of Agri. Education
University of Agriculture, Faisalabad

Muhammad Shafiq

Muhammad Shafiq
Graduate Student
Iowa State University Ames, Iowa.

APPENDIX C: FOLLOW-UP LETTERS



Tel { Phone : 25911 Ext 70
Gram : Agrivarsity

University of Agriculture, Faisalabad

No. R.S. _____

Dear Graduate:

We are sure you are VERY tired of receiving mail from us regarding our follow-up study of graduates from 1967 - 1978. We know you are busy and do not wish to be bothered anymore. We have received input from most of the graduates. If you have not returned the questionnaire, would you please do it today? We really appreciate the feedback you give us and find it to be extremely valuable in our study.

We'd like to include you in our study! All the data you send will be held in strict confidence. Thank you so much and best wishes in your present endeavors.

We hope to hear from you soon.

Sincerely yours,

Niaz

Niaz Hussain Malik
Department of Agri. Education
University of Agriculture, Faisalabad

Shafiq

Muhammad Shafiq
Graduate Student
Iowa State University Ames, Iowa.



Tele { Phone : 25911/Ext. 70
Gram : Agrivarsity

University of Agriculture, Faisalabad

No. R.S. _____

Dear former student:

Thank you for returning the follow-up form which we sent you recently. You have aided us in our attempt to evaluate our program. Your continued interest and support of the Agricultural Education program is appreciated.

Sincerely yours,

Niaz Hussain Malik
Department of Agri. Education
University of Agriculture, Faisalabad

Muhammad Shafiq
Graduate Student
Iowa State University Ames, Iowa.

APPENDIX D: NATIONAL PAY GRADE

REVISED NATIONAL SCALES OF PAY

NO.	N.P.S.	R.N.P.S.	R.N.P.S. effective 1-7-1981
	Rs.	Rs.	Rs.
1	100/140	250-5-280/6-340	250-5-280/6-340-7-375
2	110/160	260-6-302/7-365	260-6-302/7-365-8-435
3	120/180	270-7-326/8-390	270-7-326/8-390-9-435
4	130/200	280-8-352/9-415	280-8-352/9-415-12-475
5	150/280	290-10-350/12-470	290-10-350/12-470-14-540
6	165/315	315-12-399/14-525	315-12-399/14-525-16-605
7	180/370	335-14-447/16-575	335-14-447/16-575-18-665
8	200/425	370-16-514/18-640	370-16-514/18-640-22-750
9	225/480	390-20-590/22-700	390-20-590/22-700-24-820
10	250/540	410-22-520/24-760	410-22-520/24-760-28-900
11	275/600	430-24-550/28-830	430-24-550/28-830-30-980
12	300/650	460-28-600/30-900	460-28-600/30-900-32-1060
13	325/700	490-30-790/32-950	490-30-790/32-950-35-1125
14	350/750	520-30-730/35-1010	520-30-730/35-1010-40-1210
15	375/825	550-35-900/40-1100	550-35-900/40-1100-50-1350
16	400/1000	625-40-825/50-1325	625-40-825/50-1325-60-1625
17	500/1250	900-50-1150/60-1750	900-50-1150/60-1750-100-2250
18	1000/1750	1350-75-1650/100-2150	1350-75-1650/100-2650
19	1800/2200	2250-100-2750	2250-100-3050
20	2300/2600	2600-125-3225	2600-125-3600
21	2750	3000-150-3750	3000-150-4200
22	3000	3250-200-4250	3250-200-4850
	Senior Post Allowance to RNPS-20		Rs.200/- Per Month.
	Entertainment Allowance		10% of Pay.
	Senior Post Allowance to RNPS-22		Rs.600/- Per Month.